

Fisheries for a new era

Alternative small-scale low-impact fisheries business models that are good for people and planet



Authors

Paula Barbeito Morandeira

Cristina Pita

Alexander Cottier

Gisela Costa

Hélène Buchholzer

Valeska Diemel

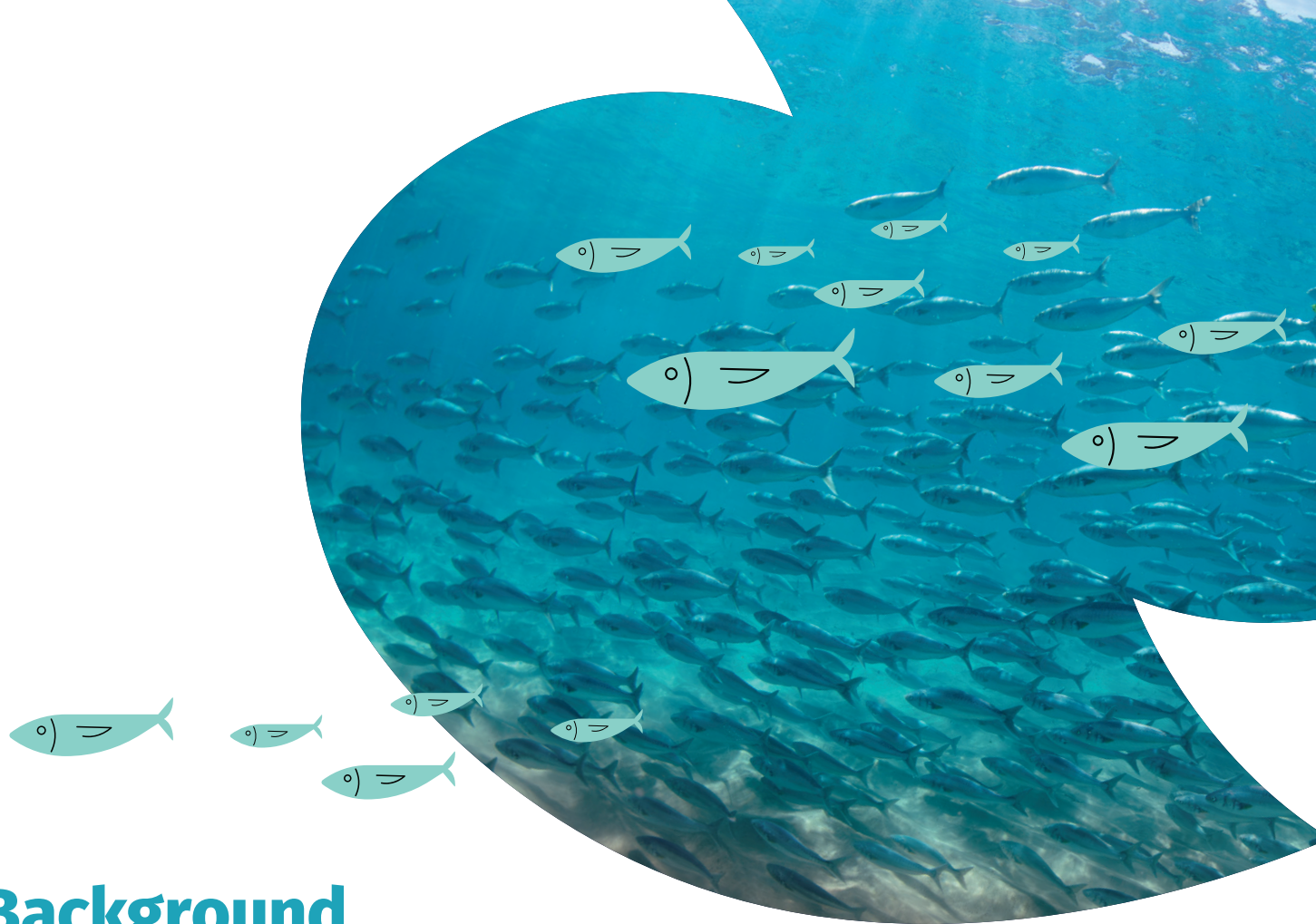
Design: Iris Maertens

Photo on the front cover ©GridArendal



Contents

Background	4
Goals of this report	5
Framework	6
Case studies	7
Fresco y del Mar	8
AKD Ltd.	13
Cabaz Fresco Mar	19
Empesca't	24
Ligneurs de la Pointe De Bretagne	31
Blueat Pescheria Sostenibile	38
Sole of Discretion	44
Snowchange Cooperative	51
Thorupstrand Coastal Fishers	58
Sebastian Baier Fish Butchery	65
Abalobi	72
FiskOnline	77
Conclusions	82
Recommendations	86
Bibliography	89
Annex	90



Background

The European Union's fishing sector is at a crossroads. Over time, European fisheries have been plagued by a series of crises, gradually eroding the sector's resilience. Overfishing is rampant, leading to declining or even collapsing fish populations (Froese et al., 2018). A select group of large-scale industrial operators have increasingly consolidated ownership of capital, fishing capacity, and allocation of fishing rights (Pascual-Fernandez, Pita and Bavinck, 2020; Guyader et al., 2013). Small-scale coastal fisheries have suffered due to this concentration of resources and capital (Pascual-Fernandez, Pita and Bavinck, 2020), with these less-impactful, yet socially vital fisheries struggling to survive.

The COVID-19 pandemic and the energy crisis have further highlighted the sector's fragility, underscoring the urgent need for adaptation in response to rapidly changing environmental, political, and economic circumstances. Two key lessons emerge. Firstly, the just-in-time, cold supply chain delivering fishery products to centralised supermarkets is unsustainable, wasteful and highly vulnerable to external disturbances (UNEP and FAO, 2022). Secondly, the sector's heavy reliance on fossil fuels makes it susceptible to cost and supply fluctuations.

A shift towards low-impact, regenerative fisheries is imperative. This change should prioritise catch quality and ocean health over sheer quantity. It must also ensure that fishing communities can make a good living. Inspired by the agro-ecological movement and the concept of "community supported agriculture", we believe that a parallel fisheries revolution is needed. This alternative model should be based on social and environmental justice, regeneration, selectivity, and seasonality. It must consider fishing holistically within the broader ecosystem, encompassing the spectrum of human-nature interactions.

For this transformation to be successful, new business models and diversified income-generating activities are essential. Establishing alternative and more direct trade relations between consumers, aquatic food producers, and fishers can bring diversity and fair prices to the market and build solid relationships along the value chain. Coastal communities and fishers must be recognised as custodians of the sea, and financially supported in their role.

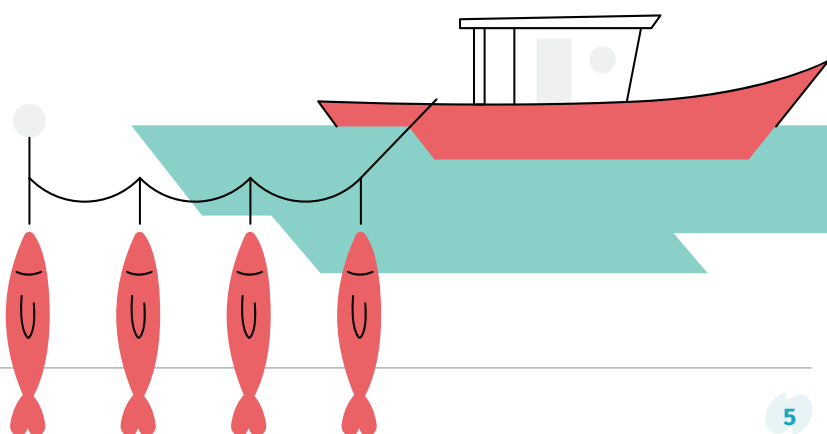
Alternative business models within the fishery sector gain little public visibility, yet there are inspiring examples that can provide inspiration for larger-scale change. They encompass all aspects of fishery, from the extraction process, product handling and transformation, service offerings, collective organisation, revenue models, market diversification, gear design and use, fishing techniques, and different forms of management, including co-management and participative management.

This report documents 12 diverse examples of alternative fisheries business models. These examples are not perfect, but they all demonstrate courageous and innovative approaches to the way seafood is produced and distributed in Europe. Adopting a comprehensive perspective on fisheries, inspired by the dedication and passion of those committed to their profession, can pave the way for the policy reforms needed for a sustainable and accountable future for Europe's fisheries.

Goals of this report

This report aims to showcase different initiatives that address the aforementioned challenges facing the fishery sector. These initiatives typically involve direct-selling mechanisms or at least reduced reliance on middlemen, both of which benefit fishing communities. Many have also diversified their income streams to enhance resilience. While these examples are intended to inspire “out of the box” thinking, it is important to remember that each initiative has been tailored to its unique context, and what works in one community may not necessarily succeed in another.

Small-scale low-impact fishing plays a vital role in supporting livelihoods and local economies. These fishing practices provide employment opportunities that contribute to economic stability and support local food systems by supplying fresh seafood to local markets. Moreover, small-scale low-impact fisheries are often more sustainable, helping to preserve marine ecosystems and maintain biodiversity. They are therefore not only essential for supporting the livelihoods of local communities but also for fostering local economic development and maintaining ecological balance.



Framework

To lay the foundations for this report, an extensive catalogue of innovative market strategies in small-scale low-impact fisheries was meticulously and systematically compiled. The initiatives were selected for their unique characteristics, which included the creation of novel labelling systems, the establishment of direct market systems, and the introduction of new products. From the many initiatives identified, 12 were chosen to be explored in more detail.

To gain a deeper understanding of these initiatives, a series of structured interviews were conducted with key stakeholders (see annex). These interviews provided detailed insights into the various business models. This made it possible to collect comparable data across the different initiatives, allowing for the identification of key trends, challenges, and opportunities within the small-scale low-impact fisheries sector.

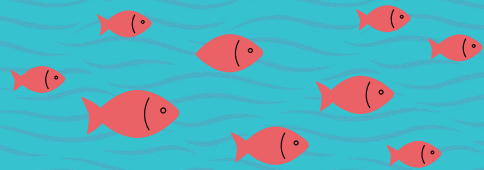
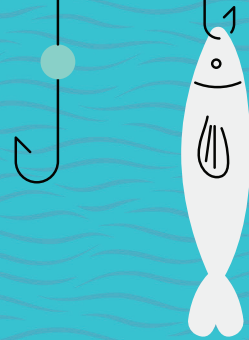
Beyond drawing their conclusions from the study, the authors also developed a series of actionable recommendations for improving the marketing of products from small-scale low-impact fisheries, drawing on the challenges and opportunities identified in the different case studies.

The study therefore not only provides an in-depth analysis of the selected initiatives, but also offers practical suggestions for improvement.



Case studies

- 1 Fresco y del Mar
- 2 AKD Ltd
- 3 Cabaz Fresco Mar
- 4 Empesca't
- 5 Ligneurs de la Pointe de Bretagne
- 6 Blueat Pescheria Sostenibile
- 7 Sole of Discretion
- 8 Snowchange Cooperative
- 9 Thorupstrand Coastal Fishers
- 10 Sebastian Baier Fish Butchery
- 11 Abalobi
- 12 FiskOnline



Hacking the auction

FRESCO Y DEL MAR

Muros, Spain



Number of fishers	20-30 small-scale boats (around 50 fishers) 70-80 women shellfish gatherers (mariscadoras)
Average size of vessels	12 metres (maximum)
Main gear used	Traps, gillnets/trammel nets, and small longlines
Main species caught	Wide variety of species, but mainly hake, European sea bass, octopus, white seabream, and ballan wrasse
Species with quota	Sardine, hake, Atlantic mackerel
Website	frescoydelmar.com

Background

In 2001, seven Galician fishers' guilds founded Lonxanet Directo. Their aim was to commercialise artisanal fishing products and address issues like overfishing, low auction prices, and the lack of consumer confidence. Driven by the mission to promote sustainable fishing, the pioneering social enterprise used its profits to support fishing communities through the Lonxanet Foundation for Sustainable Fishing (FLSF), a non-profit organisation established in 2002.



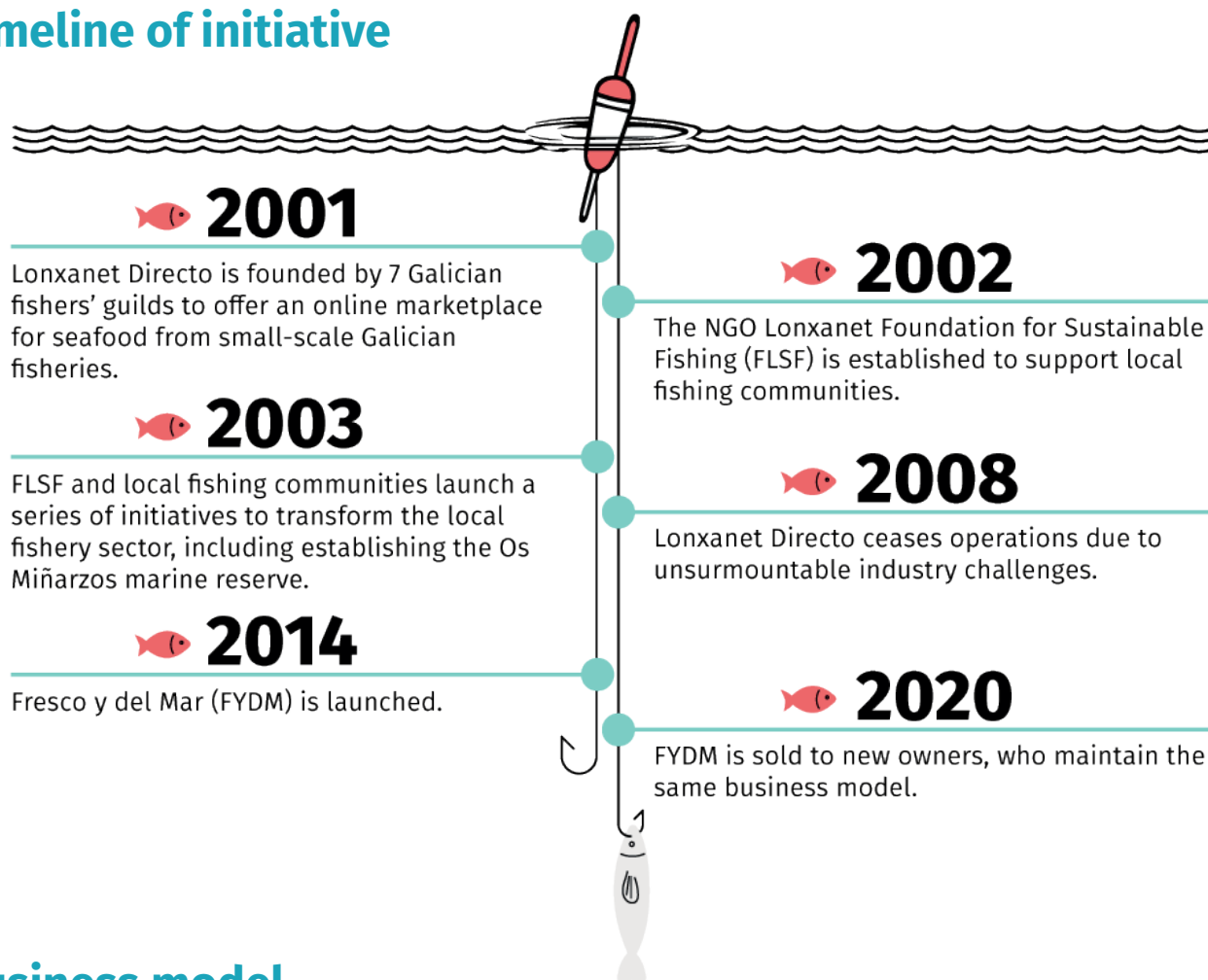
However, the enterprise faced significant challenges. The Prestige oil spill in 2002 closed artisanal fisheries for a year, and the 2007-2008 financial crisis caused many of its restaurant clients to close down. Efforts to establish a culture of buying fresh produce in the restaurant sector proved both costly and difficult. These cumulative factors resulted in Lonxanet Directo ceasing operations in August 2008.

In response to growing uncertainty about the future of fisheries in the area, FLSF and the local fishing community embarked on a series of initiatives to promote sustainable practices.

The most notable was the Os Miñarzos marine reserve, established in 2003 and formally acknowledged in 2007, which covers 2,074 hectares. A new shared vision for the future was taking shape, with a shift towards increased collaboration between fishers and a new spirit of social entrepreneurship and autonomy.

Within this context, Fresco y del Mar (FYDM – meaning “fresh and from the sea”) emerged in 2014, building on Lonxanet Directo’s foundation. The company quickly achieved significant sales, with exponential growth during the COVID-19 pandemic. In 2020, the original partners sold Fresco y del Mar to Pesca Artesanal Fresco y del Mar, run from Galicia. The business model remains the same.

Timeline of initiative



Business model

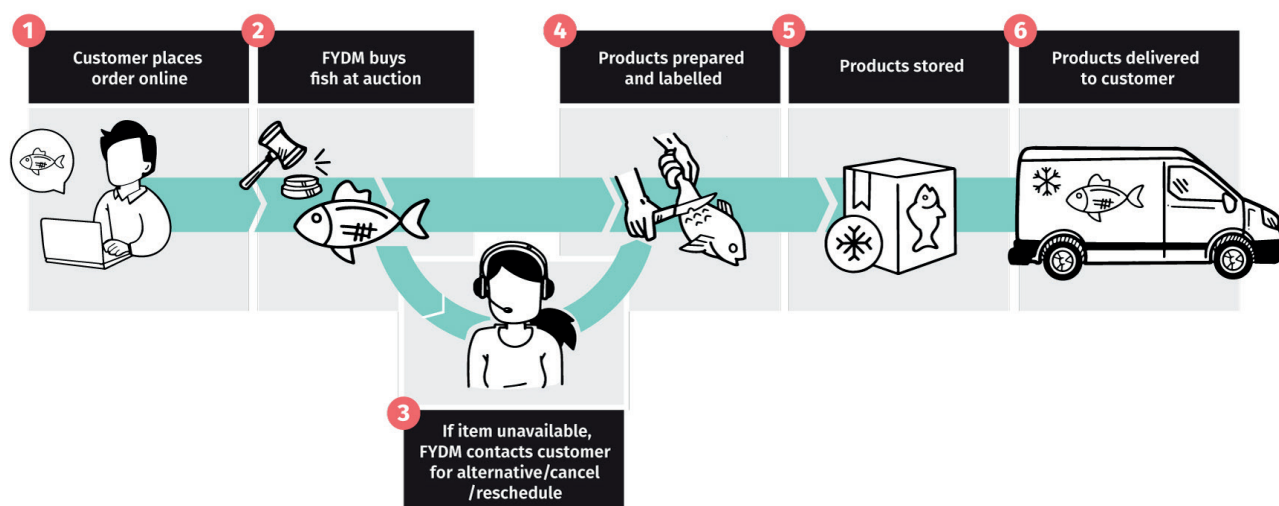
FYDM was founded on the principles of Lonxanet Directo, a company dedicated to delivering top-tier, sustainable seafood to individual consumers and businesses while ensuring fair prices to fishers.

FYDM operates as a broker, bridging the gap between small-scale fishing communities along the Costa da Morta and Ria de Muros e Noia and their customers. With no need to hold stock, and only purchasing what is ordered, FYDM's initial investment was limited to the purchase of a van to deliver customer orders. This business model allowed the company to scale fast, with the COVID-19 pandemic further boosting orders and revenue.

By selling products at higher prices to middle-class households and businesses, FYDM can afford to pay higher prices at auction while still maintaining a healthy profit margin. This benefits both fishers and FYDM.

FYDM offers seasonal catch, reflecting the availability and health of fish populations. Any fish populations deemed unhealthy by the co-management body, authorities or NGOs is not sold.

The Fresco y del Mar business model functions as follows:



1. Customers order seafood via email, WhatsApp, or the FYDM website, and pay via credit card, PayPal, or bank transfer.
2. FYDM purchases seafood from small-scale fisheries at local auctions to fulfil the orders received.
3. If ordered items are not available, FYDM contacts the customer to offer an alternative, reschedule the delivery, or provide a refund.
4. The purchased items are prepared according to the customer's wishes (e.g. whole, cooked, gutted, filleted, sliced, cut in half, vacuum packed) and labelled.
5. The items are stored in styrofoam containers with reusable ice packs offering excellent thermal insulation.
6. An independent transporter picks up the fresh items and delivers them to the customer within 24 hours. The reusable ice packs and other reusable packaging are given back to the transporter upon delivery.

Main challenges of setting up and running the initiative

By modelling itself on Lonxanet Directo, FYDM enjoyed a straightforward launch with no major challenges. However, the crowded online seafood market made it difficult for FYDM to get the visibility it needed.

Achieving a dominant position and carving out a unique market niche required considerable effort. This included regularly updating its blog with articles featuring targeted SEO keywords, collaborating with food bloggers, generating news about Fresco y del Mar as a leading company in the commercialisation of Galician seafood, and promoting small-scale and low-impact fishing in various media outlets. The company also felt the need to invest in search engine advertising via Google Adwords to boost visibility.

Currently, FYDM's main challenge lies in **transportation**, with the intricate logistics required for swift delivery and maintaining a cold chain representing a significant hurdle.

Future plans

Transportation is a critical issue that FYDM needs to address in the short term. The delivery process involves complex logistics to ensure swift delivery while respecting the cold chain. Spain's national postal service is in the process of developing Correos Frio, a "cold post" service designed to drastically reduce packaging waste and provide temperature logs to monitor the cold chain. Although Correos Frio is still under development, FYDM anticipates that it will reduce operational costs.



©Fresco y del mar

FYDM would also like to **expand into public and private sector food procurement**, targeting collective canteens such as in hospitals, schools, and businesses. This presents a significant market opportunity, and FYDM has already presented its sustainable seafood model to several Galician companies. It plans to extend its model to other regions in Spain, although this is a long-term goal.

An overarching goal remains to **improve the income of fishers** by breaking the cycle of low auction prices imposed by wholesale buyers. Its ultimate aim is to encourage fishers to catch less while still being sure of earning a higher profit.

“We want to be our customers’ trusted online fishmonger. We want Fresco y Del Mar to be a platform that helps customers choose the best seafood products available at any time of the year and to get them from a sustainable source.”

(Emilio Louro)

“By focusing on upper-middle income customers, Fresco y Del Mar can sell its products at a higher price, helping fishers make a good living while still making a healthy profit. If fishers can make a decent income by catching less fish, that’s good for our oceans.”

(Emilio Louro)

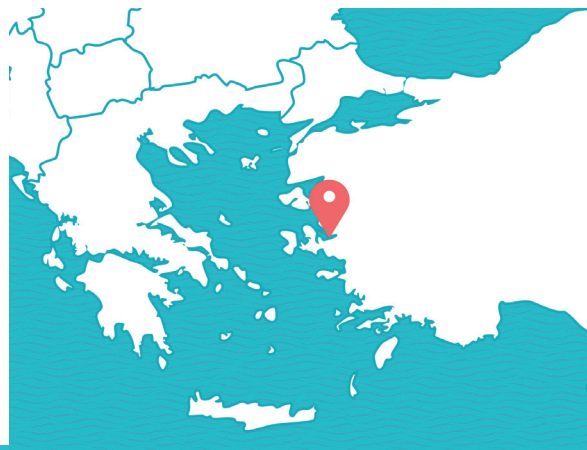
Business model – Fresco y del Mar

Key partners	5 partners to build the platform, including 1 with expertise in fisheries, 2 engineers, 1 economist and 1 architect
Key resources	<p>Physical resources:</p> <ul style="list-style-type: none"> • Porexpan and cardboard containers • Reusable ice packs and insulating materials • Tools for processing (knives, cutting boards, vacuum machine, oilskins) • Utility van for transporting fish from auction to FYDM warehouse • FYDM warehouse <p>Human resources:</p> <ul style="list-style-type: none"> • 4 permanent full-time staff • 10-12 seasonal workers during the Christmas period
Investment and financing	<ul style="list-style-type: none"> • Initial capital of €3,000 which was used to lease the utility van and purchase a limited amount of processing equipment. • FYDM later received a grant from the EU (GAC).
Customer relationship	<ul style="list-style-type: none"> • Fidelity programme. • Recipes provided in product packaging. • Very successful Anti Black Friday Campaign, leading to higher sales and customer loyalty. • Conscious buyers interested in high-quality products with low environmental impact, and where fishers receive a fair price.
Payment arrangements	Immediate online payment at order placement by credit card, PayPal or bank transfer.
Cost structure	Annual costs of 30-40% of annual revenue.
Customer segments	<ul style="list-style-type: none"> • 8,000t customers registered on the platform. • 75% private consumers and consumer groups. <ul style="list-style-type: none"> » Private consumers are 35-50 years old, upper-middle class (60% women, 40% men). • 25% B2B customers <ul style="list-style-type: none"> » B2B customers includes restaurants and company canteens, but no supermarkets. <p>Where are the customers located?</p> <ul style="list-style-type: none"> • 10-15% Galicia • 75-80% mainland Spain and Balearic Islands • 5% other EU
Revenue stream	Annual total revenue of around €1 million.

Sea invaders

AKD LTD.

Bornova, İzmir Türkiye



Number of fishers	19 fishing cooperatives involved, with a total of 400 fishers and households
Average size of vessels	7–8 metres (maximum 12 metres)
Main gear used	Longlines, nets, thick trammel nets, and Gittings lionfish purse traps
Main species caught	Mainly lionfish, but also a small proportion of redcoat and others (e.g. brushtooth lizardfish, Randall's threadfin seabream)
Species with quota	None (no regulations on invasive species)
Website	<u>No website</u>

Background

Since 2014, invasive species have increased exponentially in Türkiye, including the lionfish which arrived along the southwestern coastline from the Red Sea via the Suez Canal. This influx has disrupted the balance of marine ecosystems, resulting in reduced income for small-scale fishers. To tackle this head-on, the Mediterranean Conservation Society (AKD), an NGO, devised a plan for fishers to catch the invasive species and market them to restaurants and consumers.

As an NGO, AKD was unable to sell the fish itself, so AKD Ltd. was established in August 2020 with three main aims: increase the incomes of small-scale fishers and their households by commercialising edible invasive marine species; improve the livelihoods of fishing cooperatives in southwestern Türkiye and the Mediterranean coast by creating a market for invasive species; and increase consumer demand for invasive species to reduce their negative impact on the ecosystem and on local species.

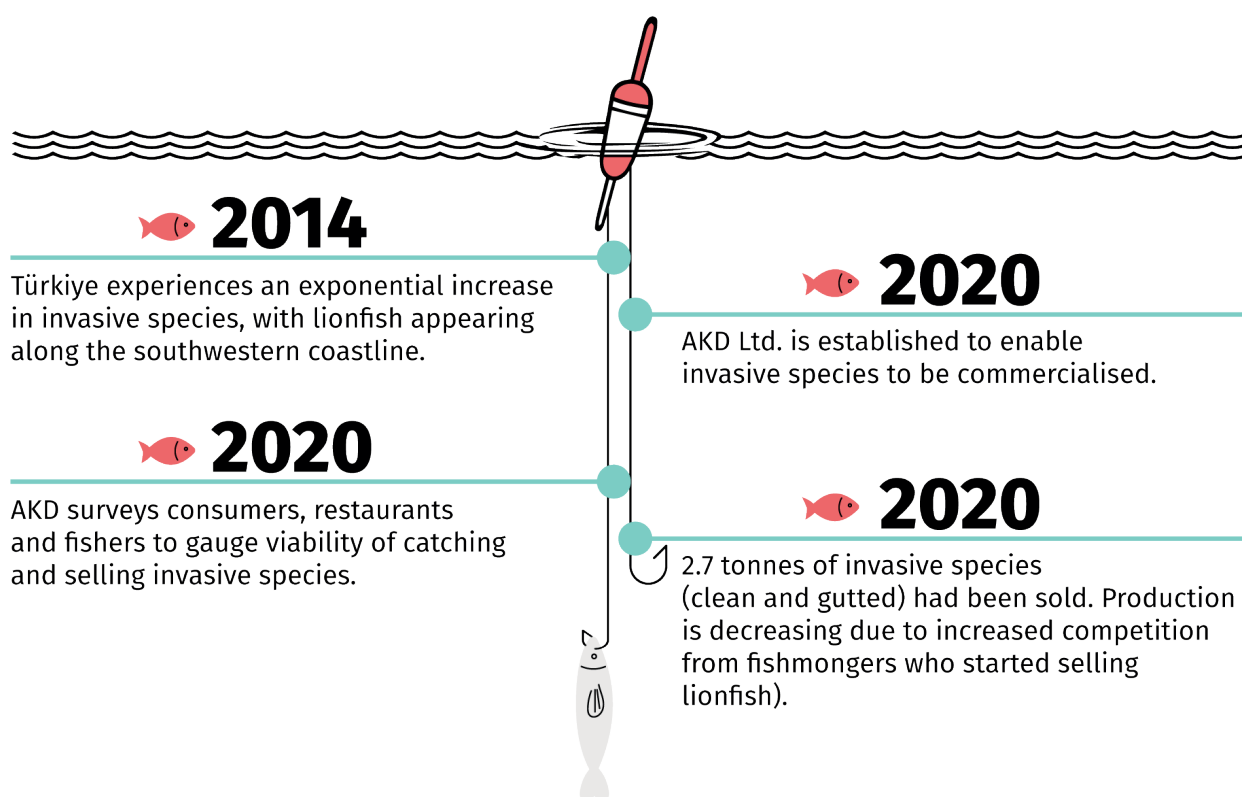
Before designing a business model, AKD surveyed consumers, restaurants and small-scale fishers on Türkiye's southwestern coasts to gauge interest.



The surveys showed that most consumers were willing to try or buy invasive species if they were readily available, restaurants would serve them if there was demand, and fishers would target them if they could make money. AKD sent samples to tasting events and collaborated with fishing cooperatives to teach fishers how to clean the fish and address any potential issues.

AKD successfully applied for a grant from Fauna & Flora International (FFI) to develop the business plan. AKD Ltd. buys mainly lionfish (97%) as other invasive species like brushtooth lizardfish and Randall's threadfin seabream are already on the market. By 2023, AKD Ltd. had sold 2.7 tonnes of invasive species (clean and gutted). However, production is decreasing due to the growing market for invasive species in Türkiye, with many fishmongers selling lionfish.

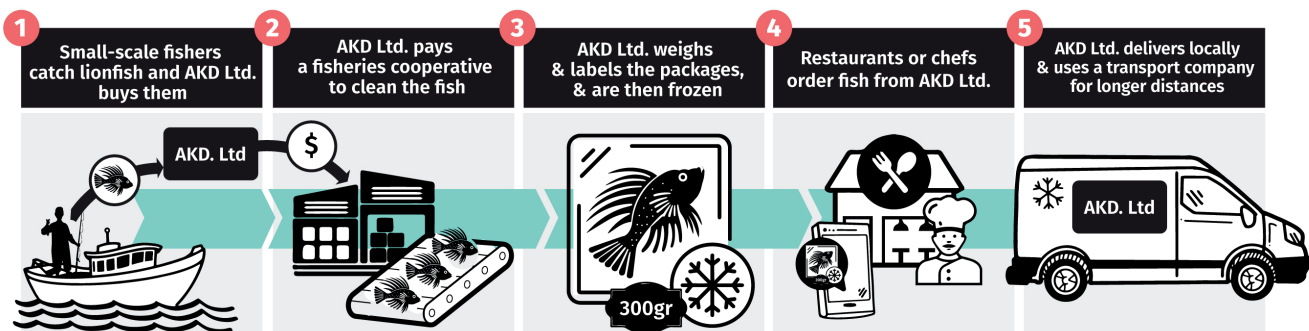
Timeline of initiative



Business model

The availability of lionfish varies seasonally, leading to fewer restaurant orders in winter due to low supply, and higher demand in summer. In 2023, AKD Ltd. focused on sales to premium restaurants with higher quantities, and the number of customers stabilised at around ten. Four customers are considered as “loyal”, meaning they consistently place at least one monthly order.

The company also adjusted its pricing based on the individual weight of fish, as larger fish are in higher demand among restaurants, and introduced a minimum order volume. The price per kilo for a whole fish weighing more than 300g is now higher than the price per kilo for a whole fish weighing less than 300g. To reduce overall operational costs, AKD Ltd. imposes a minimum order volume of 20kg.



The AKD Ltd. business model functions as follows:

1. Small-scale fishers catch the lionfish.
2. The fishers contact AKD Ltd., which buys the lionfish and pays the fisher or cooperative.
3. The fish is cleaned at the fisheries cooperatives, with AKD Ltd. paying the cleaning fee.
4. AKD Ltd. weighs and labels the packages, including details such as species name, package date, shelf life, cooperative's name, fisher's name, and weight.
5. The packages are frozen.
6. Restaurants or chefs order fish from AKD Ltd. via phone call or text message.
7. AKD Ltd. delivers locally using a cold-storage vehicle or arranges for a transportation company to deliver orders to customers located further away.

Main challenges of setting up and running the initiative

AKD Ltd. has faced several challenges, including **financial constraints**, seasonal fluctuations in fish availability, resistance of fishers to change practices, infrastructure deficiencies, and maintaining quality standards while fostering strong relationships with restaurants.

Lionfish thrive in warmer temperatures, but their availability dwindles during winter, disrupting the steady supply restaurants need. To address this, AKD Ltd. **educates restaurants about seasonality** and encourages them to buy directly from nearby fishing cooperatives. Many restaurants also prefer to buy fresh rather than frozen fish, adding to the challenge.

Establishing a **well-structured market** within small-scale fishing communities has proven difficult due to **fishers' reluctance to adapt** their operations and to **a general lack of infrastructure**. To counter the hesitancy of fishers to repair damaged nets due to high costs, AKD Ltd. has been providing fishing nets and developing durable fishing gear. They have also supplied freezers and cleaning tables to cooperatives lacking suitable storage and equipment.

Ensuring quality standards, hygiene and a reliable cold chain, while simultaneously fostering good relationships with restaurants, is another challenge. AKD Ltd. has paid careful attention to how it communicates with its diverse

audience, including high-end restaurants, celebrity chefs, gastronomy schools, and governmental bodies, among others. To bring about the necessary **behaviour change** among customers and fishers, the company actively engages in extensive **awareness-raising and outreach activities**.

As a private company, AKD Ltd. currently pays the same taxes as any other company, with no benefits or subsidies to reward its environmentally friendly operations. To encourage more innovation, AKD Ltd. is seeking a **different tax mechanism** that recognises nature-positive **enterprises**.

Future plans

AKD Ltd. has various ideas to support fishers in taking advantage of the large populations of invasive species. One initiative is to host more tasting events aimed at persuading local consumers and restaurants to procure lionfish directly from cooperatives. In the mid to long term, AKD Ltd. could eventually step back and let the fishers run the business themselves. To make this possible, the company wants to enhance fishers' capacity to incorporate this business model into their cooperatives. Partnerships with supermarket chains like Metro also tie into this approach, with the goal of making it easier for consumers to purchase lionfish.

Another initiative under consideration includes **opening a restaurant** that exclusively serves invasive species from Gokova Bay, in collaboration with the fishing cooperative. This would not only promote the consumption of invasive species but also support the local fishing community.

Alongside market development, AKD Ltd. is focusing on innovation in fishing technology. It has initiated a research programme in partnership with a university to develop more effective **fishing gear** for lionfish, ensuring more efficient harvesting.

AKD Ltd. is also exploring a range of creative solutions for using lionfish byproducts. These include creating an **alliance** between fishing cooperatives and the municipality to convert leftover fish into pet food, as well as experimenting with the possibility of **crafting jewellery** from lionfish spines. Although some trials have been conducted, the jewellery concept still requires further development.

Fishing tourism is another avenue AKD Ltd. wants to explore to help diversify income streams for local fishing communities. However, the current legal framework in Türkiye does not support initiatives like this.



*"I would eat this [species of fish],
but I need to be able to find somewhere to buy it."*
(Consumer)

*"If customers ask us for it,
we'll serve it."*
(Restaurant owner)

© AKD ltdmar

Business model – AKD Ltd.

Key partners	<ul style="list-style-type: none"> • Fishers • Ministry of Agriculture and Environment • Seafood company • People hired for operational work
Key resources	<p>Physical resources:</p> <ul style="list-style-type: none"> • Freezers • Styrofoam boxes • Plastic • Vacuum equipment • Cold-storage vehicle rental <p>Human resources:</p> <ul style="list-style-type: none"> • 1 full-time staff member (operations and sales management) • 1 part-time staff member (collecting and delivering fish) • 1 part-time processing plant supervisor • Additionally, everybody from AKD supports the process in terms of organising tasting events, operations, communications, fishing gear research, reporting, etc. <p>Legal resources:</p> <ul style="list-style-type: none"> • Special permission from the Ministry of Agriculture and Environment to systematically remove lionfish.
Investment and financing	<ul style="list-style-type: none"> • Initial capital of GBP 80,000 (€93,000) in year 1 and GBP 160,000 (€188,000) in year 2. • AKD Ltd. received a GBP 250,000 (€291,000) grant from FFI from 2021-2024. • Application for funding from the Food and Agriculture Organization of the United Nations (FAO) currently in progress.
Customer relationship	<ul style="list-style-type: none"> • Win-win for the customers and the ecosystem: <ul style="list-style-type: none"> » Fish is wild, not from aquaculture. » Lionfish is cheaper than grouper species, reducing pressure on native species. » Eating lionfish has become trendy due to influential TV shows like Masterchef. » Customers feel they are doing something good for the environment. • By using traditional small-scale fishing techniques, AKD Ltd. is drawing on an important cultural heritage to support small-scale fishing and increase their income.

Payment arrangements	<ul style="list-style-type: none"> • Restaurants pay on a monthly basis. • AKD Ltd. pays fishers immediately as otherwise they would not target lionfish.
Cost structure	<p>2.7 tonnes of lionfish already sold</p> <p>Annual total revenue: xxxx</p> <p>Annual costs: GBP 250,000 (€291,000)</p>
Customer segments	<ul style="list-style-type: none"> • 23 private consumers who order regularly and who live on the coast • Restaurants <p>Where are the customers located?</p> <ul style="list-style-type: none"> • Big cities, mainly Istanbul and Ankara • The minimum order for big cities is 20-30 kg to reduce the carbon footprint and the cost of fuel
Revenue stream	<p>When preparing the proposal for FFI in collaboration with the Genem Foundation, AKD Ltd. had envisaged breaking even within 18 months. However, this did not happen, and cash flows need to be reevaluated. Revenue from fish sales covers operational costs and key staff salaries, but inflation also needs to be factored into projections.</p>

Local fish baskets

CABAZ FRESCO MAR

Fuzeta, Portugal



Number of fishers	86 vessels, 258 fishers
Average size of vessels	5.5–15 metres
Main gear used	Pots and traps
Main species caught	Octopus and clams
Species with quota	Clams
Website	cabazfrescomar.pt

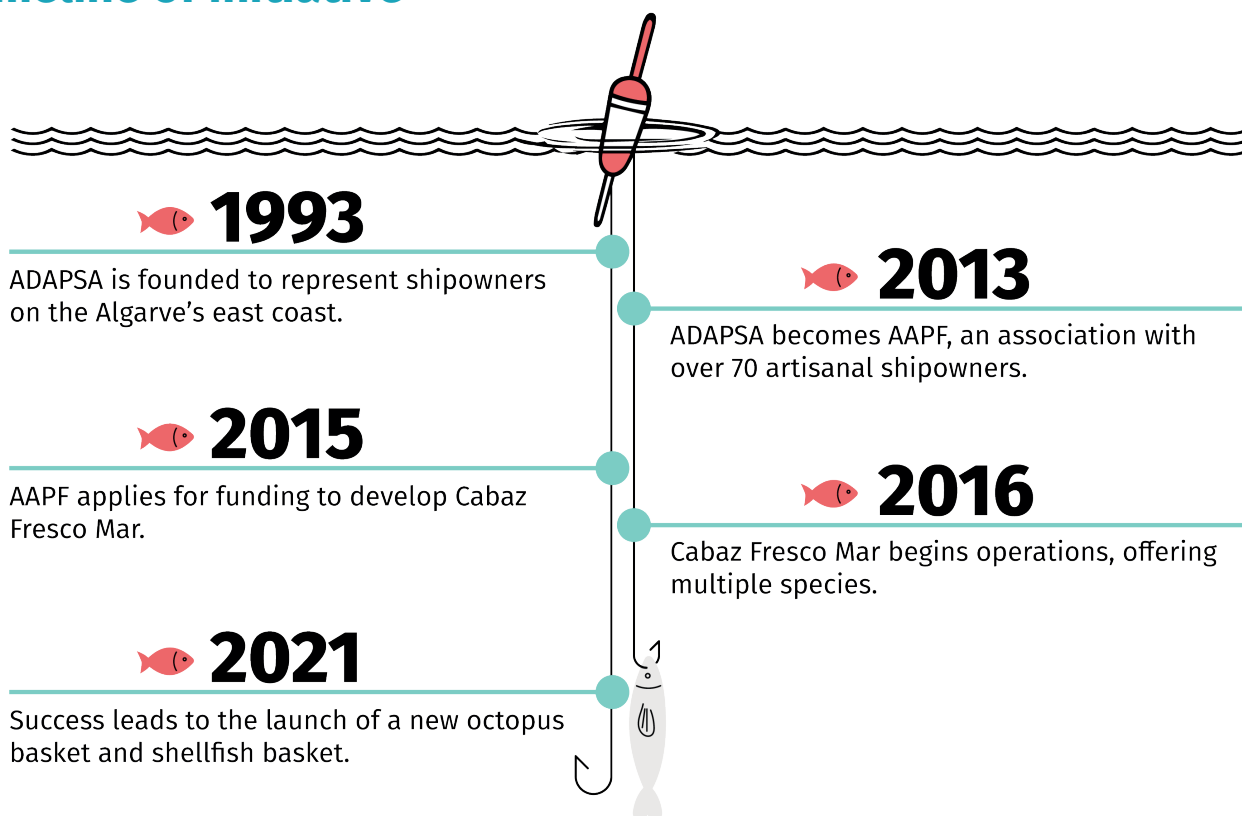
Background

In 1993, the Armadores de Pesca do Sotavento Algarve (ADAPSA – the Fishing Shipowners Association of Eastern Algarve) was founded to represent shipowners on the Algarve’s east coast, who operated mainly in Moroccan waters. When this activity ended, the fishing fleet was dismantled. In 2013, ADAPSA became the Associação de Armadores de Pesca da Fuzeta (AAPF – Fishing Shipowners Association of Fuzeta), with over 70 artisanal shipowners operating in local and coastal waters with pots and traps, hooks and lines, gillnet/trammel nets. AAPF has developed various projects, including technological and safety updates for vessels, fostering trust within the community and earning support from public entities.

In 2016, AAPF secured funding via a competition to create Cabaz Fresco Mar (meaning “fish basket fresh from the sea”), a fish box scheme. The initiative shortens the market circuit, selling the catch from local small-scale fisheries to local consumers (between Faro and Tavira). As per EU and Portuguese regulations on traceability and food safety, the catch still needs to be marketed or registered at an auction. AAPF purchases the products at a fair price at auction, bypassing the unfair “descending-bid” Dutch auction system often exploited by middlemen.

AAPF carefully selects the species for the Cabaz Fresco Mar basket, ensuring they only include seasonal species caught by the artisanal fisheries fleet. Clients enjoy local fresh, cleaned seafood delivered to their home or place of work, and sold at a price that is fair to fishers and consumers alike. The success of the fish basket resulted in the expansion to octopus and shellfish baskets in 2021.

Timeline of initiative



Business model

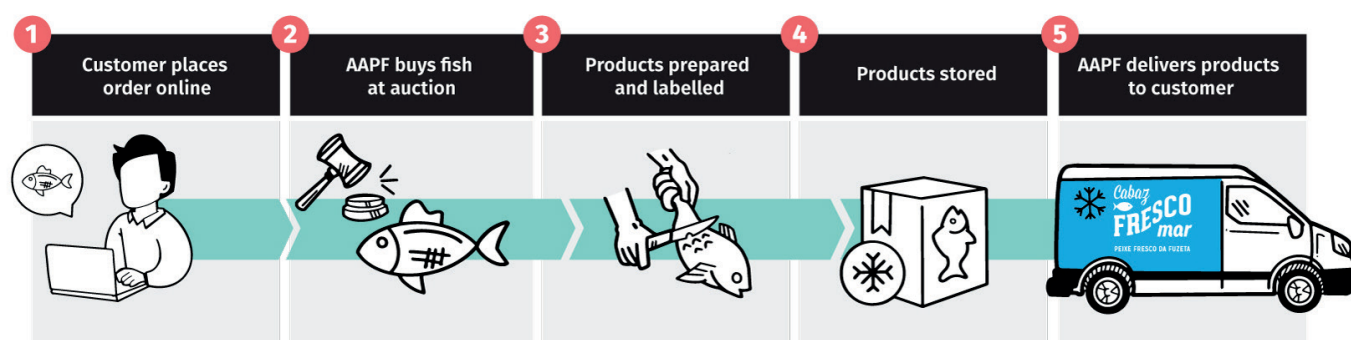
AAPF designed a direct-to-consumer fish box scheme as part of a competition for innovative ocean- and fisheries-related ideas launched by Docapesca, the state-owned company that organises first sales of fish and supports the fisheries sector and its ports. It won full funding to launch Cabaz Fresco Mar, as well as support to develop the process. Docapesca allowed AAPF to use part of the fish auction house facilities to run its operations, and the funding was used to acquire equipment like a cold-storage van and styrofoam boxes.

Cabaz Fresco Mar offers seasonal catch, helping to educate customers about the importance of respecting seasonal availability. There are two types of basket: a 3 kg basket for €30 and a 5 kg basket for €50. Octopus and shellfish baskets weigh 3 kg, and cost €38 and €35 respectively. These prices allow fishers to be paid fairly for their catch. Customers can opt for monthly, weekly, biweekly or single deliveries.

For the fish basket, customers cannot choose the specific fish they want to receive. Instead, they indicate three species from a list of 35 that they do not wish to receive. The 3 kg or 5 kg basket is then filled randomly according to the catch of the day. Customers are not notified in advance about which species they will receive. One third of the basket's weight consists of lesser-known and cheaper species to encourage and educate consumers to eat seasonal species.

AAPF has around 40 to 50 clients, mainly located in Faro, the Algarve's capital, which is 20 km from Fuzeta. These clients value sustainable fishing, seasonal and local selection, freshness, as well as the convenience of home delivery.

The Cabaz Fresco Mar business model functions as follows:



1. Customers place their order on the Cabaz Fresco Mar website or via phone call, and pay via bank transfer, by using ATM references at an ATM or online, or in cash upon the home delivery.
2. AAPF purchases seafood at local auctions in line with the quantities ordered.
3. The fish is cleaned and gutted.
4. The baskets are prepared according to the customers' orders, with seafood properly stored in vacuum bags and inside reusable isothermal boxes with ice.
5. The AAPF cold-storage van is used to deliver baskets to an agreed address within 24 hours of the seafood being caught. Customers can either reuse the isothermal boxes for their next delivery, this helping to reduce and reuse materials, or pay for a new one.

Main challenges of setting up and running the initiative

Initially, the biggest challenges were purchasing and setting up the **facilities and logistics** needed to get Cabaz Fresco Mar up and running. Now, several years later, the main challenge is the **lack of human resources**, with concern about finding new staff as current staff members approach retirement age.

Competition with similar services has also increased. Before the COVID-19 pandemic, this business model was limited to a few initiatives in Portugal. However, lockdowns led to a surge in home delivery services by fishmongers, creating direct competition with Cabaz Fresco Mar. It is also worth mentioning that the COVID-19 pandemic had a positive impact on Cabaz Fresco Mar, resulting in an increase in sales.

Expanding the business to other types of customers, such as restaurants, has also proved challenging. Because AAPF works with products from small-scale fisheries, it is difficult to offer restaurants the certainty they need in terms of species and weight to maintain consistent menus.

Future plans

AAPF considered **expanding its delivery area** to reach more potential clients, but decided that this might go against the Cabaz Fresco Mar concept of ensuring a short market circuit. The company's main ambition for the future is therefore to sustain the initiative and find ways to attract more clients.



© Cabaz fresco

It also aims to continue delivering **social benefits** through Cabaz Fresco Mar. Fishers' profitability has increased, as AAPF buys seafood at higher, fairer prices, and the initiative has created several jobs. In addition, the short market circuit and the careful selection of seasonal species caught by small-scale low-impact fisheries mean that Cabaz Fresco Mar contributes positively to the environment.

“Customer satisfaction is driven by [species] sustainability, the freshness of the products, and the convenience of receiving the basket at home.”

(Sonia Olim)



© Cabaz fresco

Business model – Cabaz Fresco Mar

Key partners	<ul style="list-style-type: none"> Fishing Shipowners Association of Fuzeta (AAPF) Docapesca
Key resources	<p>Physical resources:</p> <ul style="list-style-type: none"> Cold room Workbenches Utensils (such as gloves and knives) Scales Vacuum equipment Boxes and bags Cold-storage delivery van <p>Human resources:</p> <ul style="list-style-type: none"> 1 full-time staff member for cleaning and gutting fish and preparing the ordered baskets 1 part-time staff member to drive delivery van 1 external service provider who buys the fish at the auction AAPF also supports the process in terms of communication, order management and organisation
Investment and financing	Total public funding of around €200,000
Customer relationship	<ul style="list-style-type: none"> This initiative is a short market circuit in which AAPF acts as the intermediary between the fish auction house and the customers. Only seasonal species caught by small-scale fisheries are included in the baskets.
Payment arrangements	<ul style="list-style-type: none"> Customers pay online when ordering or upon home delivery. Payment options include bank transfer, ATM, or cash.
Cost structure	<p>Monthly costs of around €4,500, roughly broken down as follows:</p> <ul style="list-style-type: none"> 10% for vehicle maintenance and fuel 10% for electricity and water Small percentage for seafood purchase Most of the costs are allocated to salaries
Customer segments	<ul style="list-style-type: none"> 40 to 50 customers (private consumers) 40 to 50 baskets ordered per week <p>Where are the customers located?</p> <ul style="list-style-type: none"> Between Faro and Tavira (20 km radius) Most customers are based in Faro
Revenue stream	Given that the initial cost of investment was covered by community funds, AAPF did not have to recover the costs of implementing this initiative.

Short high-value chains

EMPESCA'T

L'Estartit & L'Escala, Spain



Number of fishers	10 fishers, 5 vessels
Average size of vessels	Around 7 metres, with one larger vessel of around 10 metres
Main gear used	Multi-gear depending on the season, with a mix of trammel nets, gillnets, handline, small longlines, pots and traps. The larger vessel exclusively uses a boat seine
Main species caught	Cuttlefish, octopus, squid, sea bass, sea bream, sole, bluefin tuna, scorpionfish and Mediterranean sand eel
Species with quota	Bluefin tuna and Mediterranean sand eel
Website	empescat.cat

Background

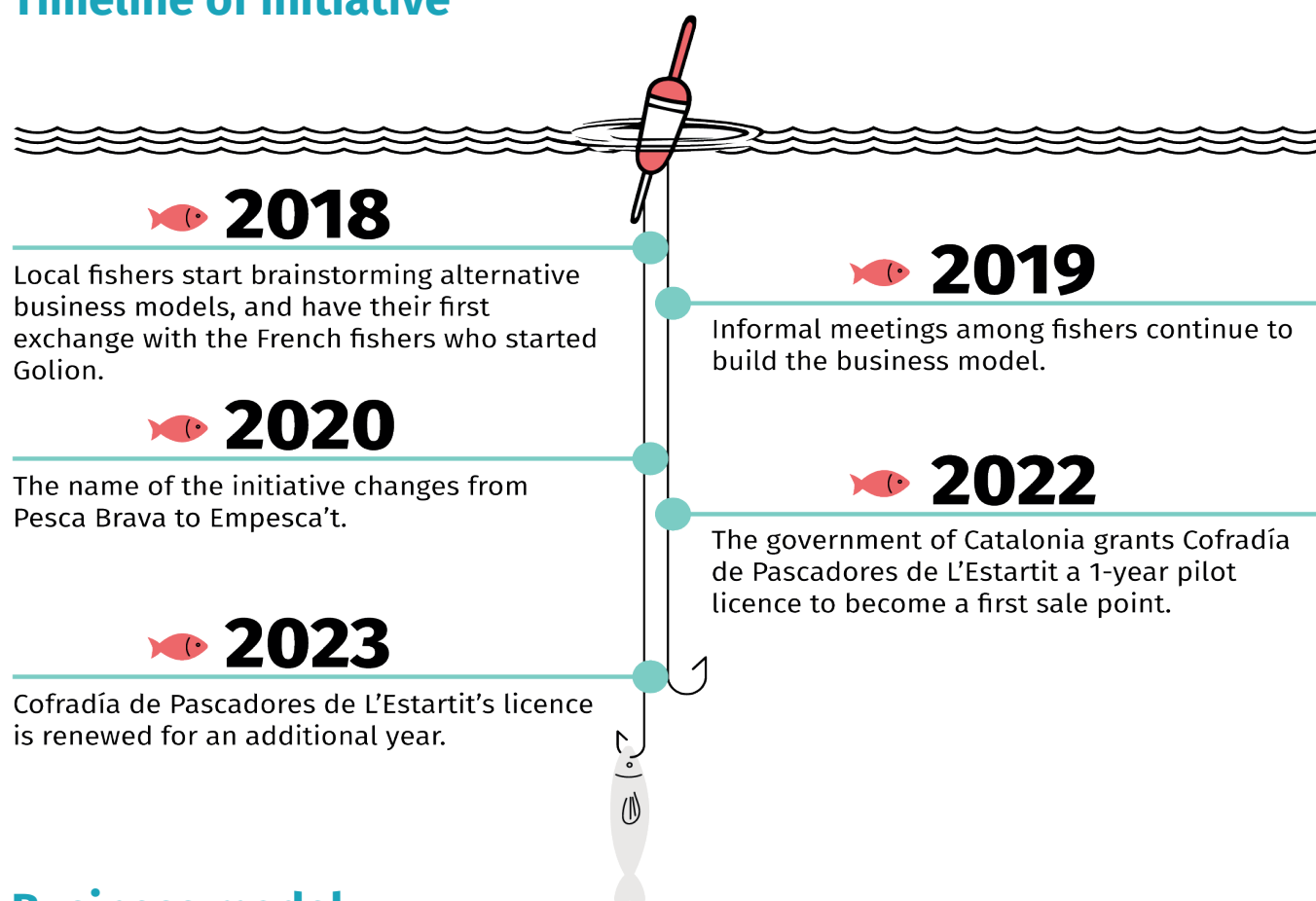
In Spain and Catalonia, seafood cannot be sold directly to consumers and/or transformers. Instead, it must be sold at a regulated first sale point, mainly through fish auctions. The auction system has several downsides, particularly for small-scale fishers. With the commonly used Dutch auction system, prices fall rapidly until a buyer accepts, putting fishers' incomes at risk. Additionally, auctions are centralised, forcing fishers to travel far, which leads to inefficiencies and can impact product quality. As an example, fishers from the small coastal town of L'Estartit had to sell their catch at the nearest auction, 40 km away in Palamos, only for local restaurants to buy it and bring it back to L'Estartit.

Although auctions are the usual method for first sales, they are not the only legal way to sell fish, as a contractual sale is also allowed by law. Inspired by Golion (www.golion.fr), a direct-selling scheme operated by French small-scale fishers in the Mediterranean, local fishers from L'Escala and L'Estartit started planning a similar scheme in 2018-2019.



This resulted in Empesca't, a direct selling platform managed and run by the local fishers of L'Escala and L'Estartit through their association Arts Menors Costa Brava. In the summer of 2022, the fishers guild of L'Estartit, received a one-year pilot licence from the government of Catalonia to become a first sale point and operate a contractual selling system through Empesca't, independent of the auction. The association is also involved in Islas Medes, the local marine protected area, as it has limited fishing rights with low-impact gears. The fishers co-manage the Sepia Project, a cuttlefish restoration project in the area. In collaboration with a local marine scientist, they collect cuttlefish eggs from their fishing gear and hatch them in nurseries before releasing them while also providing substrate for them to reproduce.

Timeline of initiative



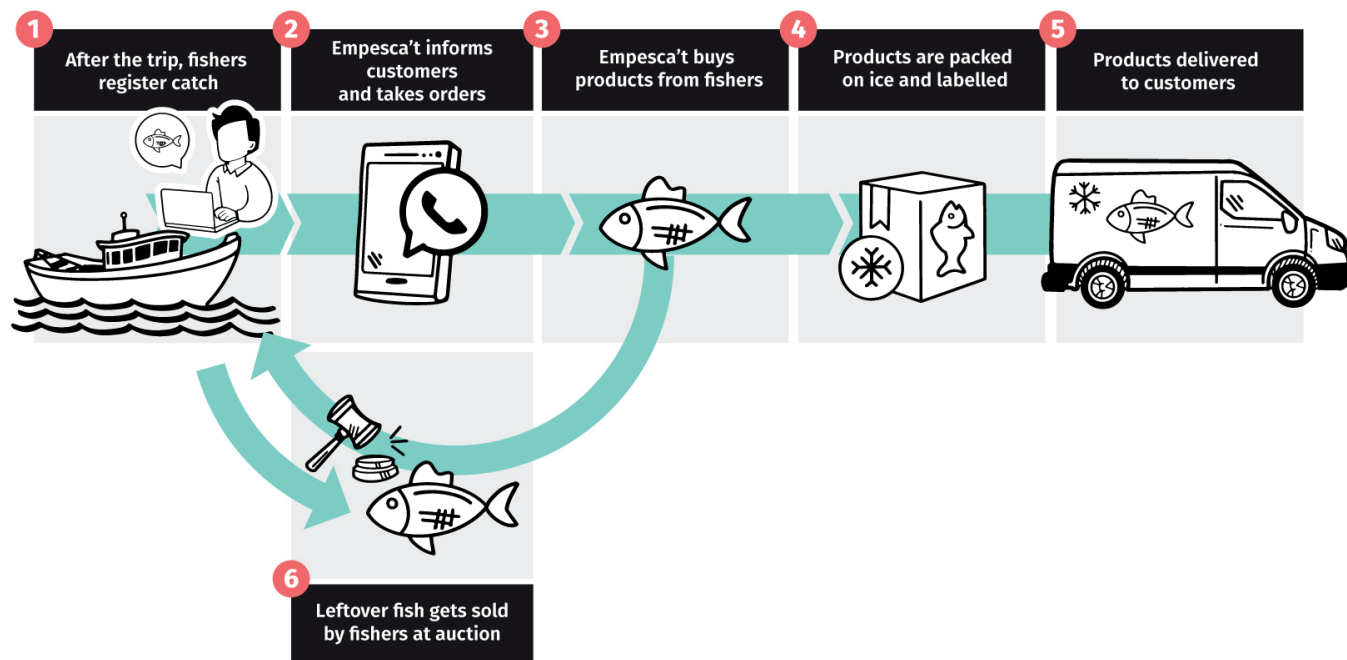
Business model

Empesca't is a direct selling platform, meaning that it effectively replaces the auction system and acts as an intermediary between fishers and buyers. Unlike traditional auctions, Empesca't signs contracts with fishers, agreeing to annual prices for a range of species and sizes that are 15-20% higher than average auction prices. To sell through Empesca't and benefit from higher prices, fishers must adhere to strict guidelines on gear usage, minimal catch sizes, respect for fisheries management plans and marine protected areas, participation in the "Sepia project" best practices, and strict quality control in handling the fish.

Empesca't buys the seafood from fishers, repackages it on ice under the Empesca't label, and delivers it to customers. The final price paid by customers includes the price Empesca't paid to the fishers, plus a small charge based on delivery distance. The initiative refuses to sell to wholesalers or intermediaries to avoid food waste and maintain high quality. Its customer base consists of restaurants and consumer groups.

This alternative selling system provides fishers with a fair and stable income by avoiding the price fluctuations associated with the traditional auction system. The economic stability enables fishers to adhere to sustainable fishing guidelines, reducing pressure on marine ecosystems. By following Empesca't's strict code, fishers are incentivised to fish responsibly for a higher, more stable income.

The Empesca't business model functions as follows:



1. Empesca't agrees a contract with fishers, setting seasonal prices for various species and sizes of fish that are 15-20% more than typical auction prices.
2. When fishers return from their fishing trip, they register the composition of their catch in terms of numbers, species and sizes and pass the information to Empesca't.
3. Empesca't tells customers which products are available via WhatsApp and takes orders every day from 12.00 noon to 14.00.
4. Empesca't purchases the ordered products from the fishers at the contract price.
5. The purchased products are packed on ice and labelled with the Empesca't logo.
6. The products are delivered to the different customers in the region, who then pay Empesca't.
7. If fishers have leftover fish after Empesca't has purchased what it needs, they sell it at the auction in Palamos, with no involvement from Empesca't.

Due to the closure of the only local fishmonger, the municipality asked Empesca't to organise a small market in the port from 12.00 noon to 13.00 every day, with Empesca't acting as an intermediary for legal purposes. The small volume of each order compared to the legal burden of reporting makes this system impractical.



© Marta Cavallé

Main challenges of setting up and running the initiative

Empesca't faced significant challenges in launching its operations due to the limited availability and energy of its founders, who were full-time fishers themselves. Progress was therefore slow in 2018-2019. **The lack of bureaucratic and technological literacy** further complicated the process, particularly in navigating the complex regulatory environment and engaging with various institutions.

The NGO Low Impact Fisheries Europe (LIFE) provided invaluable support to Empesca't's overall development, including securing funding from the Sinepesca project for "best practice exchanges", building Empesca't's capacity to create the business, and establishing the main tools (including communication tools). Empesca't received no institutional funding for its implementation, and continues to operate without such support.

Empesca't currently operates under a one-year pilot licence that needs to be renewed annually. The potential for the licence to be revoked by the regional government adds uncertainty to the project, as the prevailing political climate favours a centralised auction system for easier monitoring and regulation. This **licensing uncertainty** has prevented fishers and external organisations from fully investing in the project and scaling it. In addition, the licence only allows fishers using L'Estartit as their official landing port to sell through Empesca't, excluding those who use L'Escala or Palamos.

Another challenge facing many small-scale fishers is the **unpredictable nature of the catch**, as seen with the poor yield in 2023, which leads to financial uncertainty. Finally, the fishers running Empesca't currently juggle this role with their full-time fishing activity **with no additional remuneration**, creating an unsustainable situation.



© Marta Cavallé

Future plans

Empesca't plans to obtain a permanent first sale permit and **increase the number of L'Escala fishers** in its sales system to boost the volume of products and deliveries. This would allow them to hire a full-time employee for repacking and delivery, meaning the fishers could concentrate on their fishing activities.

The company also aims to allow **local private consumers** to purchase seafood via its system individually. However, due to time constraints, they can currently only deliver to private consumers who order in groups. Hiring a full-time employee could help them reach this market.

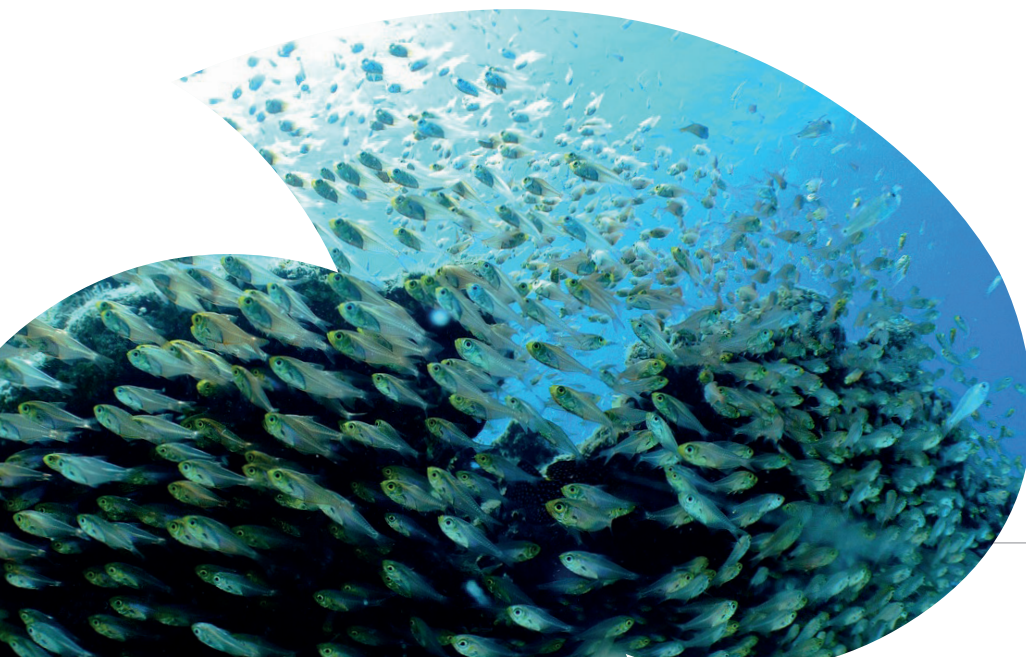
By supporting sustainable fishing practices, Empesca't provides fishers with a higher and more stable income than the existing auction system. In doing so, it hopes to incentivise lower catches for a higher selling price.

“We were travelling a total of 160 km to sell a fish that was landed 100 metres away from the restaurant that wants to buy it.”

(Isaac Moya)

“Without a fair and sustainable selling scheme, there can be no sustainable fishing.”

(Isaac Moya)



Business model – Empesca’t

Key partners	<ul style="list-style-type: none"> • Small-scale fishers from L’Estartit • Arts Menors Costa Brava • Low Impact Fisheries Europe (LIFE) • High-end restaurants, such as Celler de Can Roca
Key resources	<p>Physical resources:</p> <ul style="list-style-type: none"> • Reusable plastic boxes for delivery to restaurants • Recycled paper bags for consumer groups • Computer software • Cold-storage van and thermometers • Ice <p>Human resources:</p> <ul style="list-style-type: none"> • 3 fishers repackaging and making deliveries on a voluntary basis on top of their fishing activities • 1 fisher’s partner helping voluntarily with the paperwork and payment system <p>Legal resources:</p> <ul style="list-style-type: none"> • One-year licence to sell directly without going to auction
Investment and financing	<ul style="list-style-type: none"> • The initial capital of €15,000-€20,000 was used for establishing the legal and logistical system, software development, and material purchases. • Funds of €10,000 from the Sinepesca project covered “best practice exchanges”, business development for fishers, and communication materials. • LIFE funded capacity building, ikejime training, and a promotional video, and supported Empesca’t in fundraising. • External funding from the Daniel and Nina Carasso Foundation. • No government funding.

Customer relationship	<ul style="list-style-type: none"> • Beneficial for the ecosystem and local economy: <ul style="list-style-type: none"> » Fishers use low-impact gears and are incentivised to fish less for a higher price. » Customers can get sustainable fresh fish from their local community. » High-end restaurants are guaranteed the highest quality fish, while supporting marine ecosystem protection. » No food waste, as any unordered fish can still be sold through the standard auction system. • Local authorities asked the fishers to organise a small fish market, following the closure of the town's only fishmonger.
Payment arrangements	<ul style="list-style-type: none"> • Customers pay via bank transfer upon delivery. • Empesca't pays Arts Menors Costa Brava every Friday, which then pays each fisher based on the quantity sold.
Cost structure	<ul style="list-style-type: none"> • Average of €20,000-€30,000 yearly per boat • Very low fixed costs, which includes the phone line, the cold-storage van and software
Customer segments	<ul style="list-style-type: none"> • 25-30 restaurants, mostly high-end • 2 consumer groups, comprising private consumers living in L'Estartit <p>Where are the customers located?</p> <ul style="list-style-type: none"> • In the local community • Deliveries can be made up to 30-40 km, which includes the large city of Girona
Revenue stream	<p>In its first year, Empesca't made a profit of €3,000, which covered 20% of the original investment.</p>

Line fishing pays

LIGNEURS DE LA POINTE DE BRETAGNE

Brittany, France



Number of fishers	60 vessels, mostly with 1 fisher onboard
Average size of vessels	Around 8 metres
Main gear used	Any gear that solely relies on hooks, called <i>métiers de l'hameçon</i> in French, which includes longlines, pole and line, and others
Main species caught	Sea bass, pollack, and sea bream, with sea bass a priority
Species with quota	Pollack (EU TAC quota), sea bass (licence per boat)
Website	pointe-de-bretagne.fr

Background

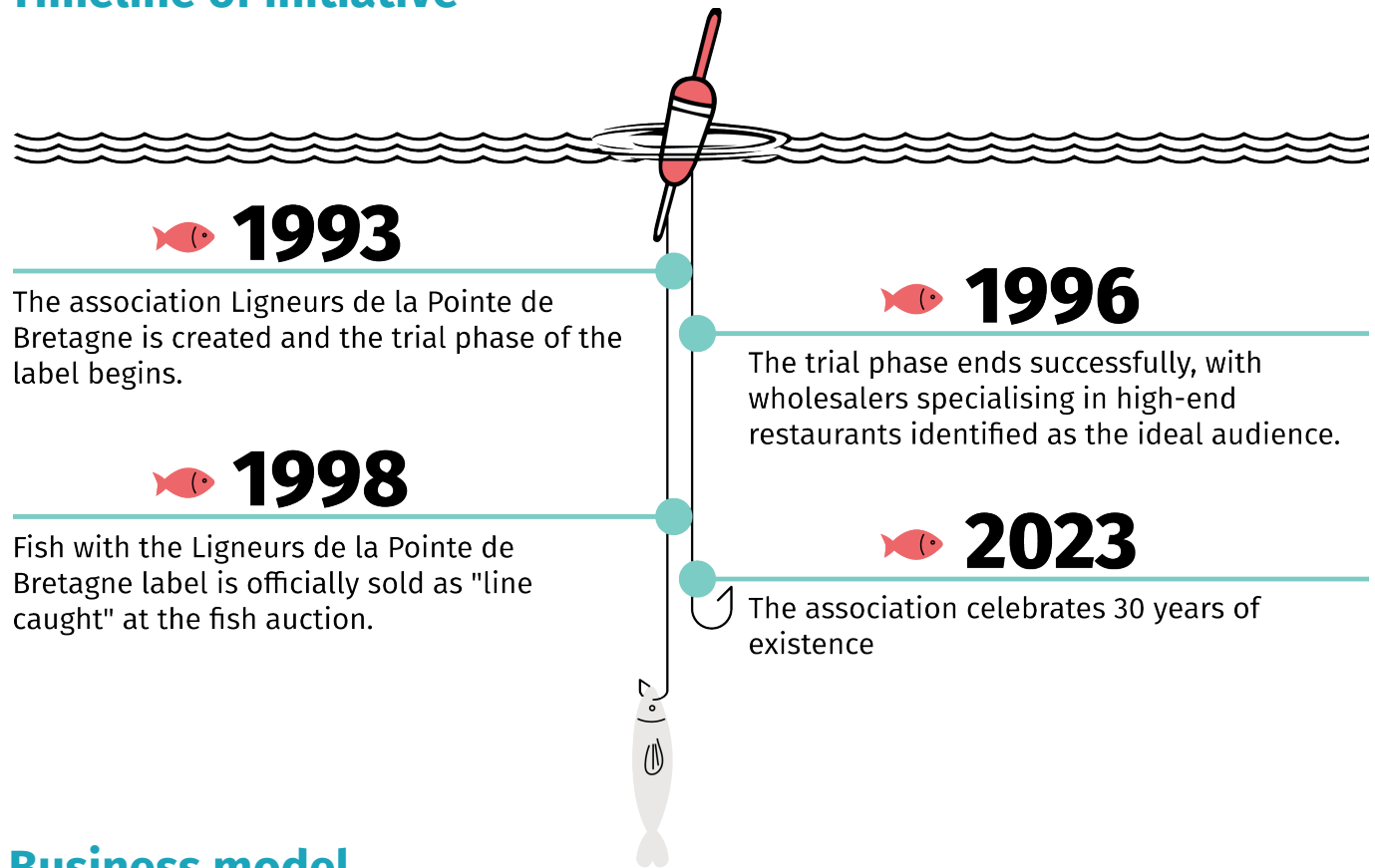
In 1993, the rise of industrial fisheries and aquaculture flooded the market with trawl-caught sea bass, driving prices down to as low as €10/kg. Small-scale fishers using longlines and hooks landed higher-quality catch daily, but as their catch was not distinguished at auction, it was being sold at the same price as industrially caught fish. This price decrease was particularly challenging for small-scale fishers, who struggled to cover their costs.

The fishing communities of Guilvinec and Audierne joined forces to explore how they could differentiate their high-quality longline-caught fish, mainly sea bass, in the market. They created the association Ligneurs de la Pointe de Bretagne (“longline fishers of the tip of Brittany”) and established a label that would identify fish as having been caught using a longline.

Initially, the label faced resistance from wholesalers, who had no interest in prices increasing, and from some fishers, who found the label’s conditions burdensome. Over a two- to three-year trial phase, the association tried to find the ideal target audience. The trial phase ended successfully, finding wholesalers specialising in higher-quality products for high-end restaurants, including gourmet and Michelin star restaurants, who could pay a higher price for sea bass.

At its peak, five years after its creation, the association had 250 members (vessels), including nearly all the hook fishers in Brittany. To ensure accurate labelling, membership was later restricted to fishers exclusively using longlines, which reduced the number of members to 60 by 2023.

Timeline of initiative



Business model

The Ligneurs de la Pointe de Bretagne label differentiates sea bass and other fish caught by members of the association from farmed and industrially caught seafood. To join the association and use the label, fishers must pay an annual membership fee of €66 and adhere to a strict code of conduct:

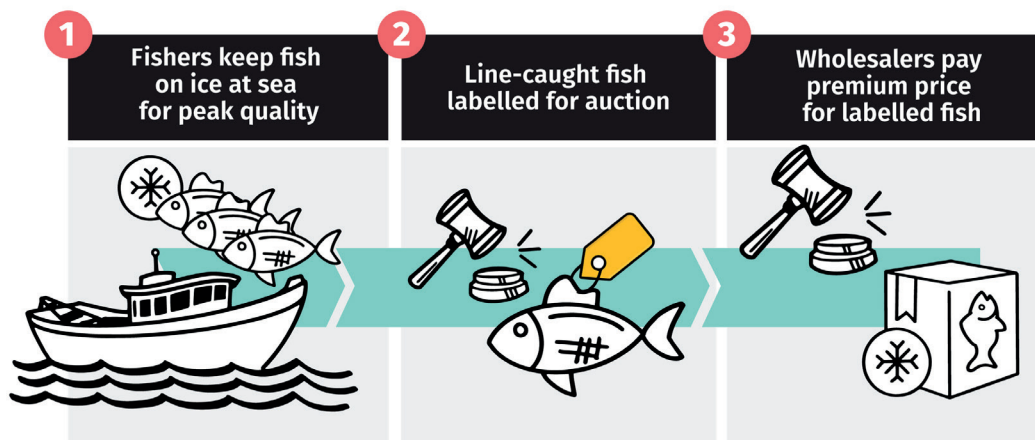
- Fishing vessels must be under 12 metres.
- Seabass must only be caught with hook gears (handline, longline, pole and line).
- Fishing trips must be a maximum of one day, with fishers only selling perfectly fresh fish at the fish auction.
- Fishers must observe a biological rest period during the sea bass reproduction period, from 15 February to 15 March.

This strict code prevents fishers who use hook gears in the summer but gillnets in the winter from selling under the label. This ensures quality and protects the label's reputation, but has caused rifts with some fishers.

The label is displayed at fish auctions, allowing small-scale longliners and hook fishers to command higher prices of usually 30-50% more, but occasionally up to 100% more. For example, a 1-2 kg sea bass with the de ligne ("line/hook caught") label can fetch €19/kg, while a 1-2 kg sea bass de chalut ("trawl caught") sells for €14.50/kg. Fishers pay €55 for a set of 500 labels, and attach one label to each fish.

Originally consisting of an orange label for sea bass, the system now includes sea bream (pink label), pollack (purple label), and other lesser-known longline-caught fish (green label).

The business model of the Ligneurs de la Pointe de Bretagne label is as follows:

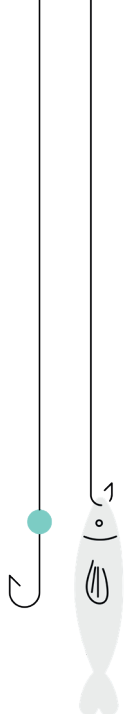


1. Fishers typically keep their fish on ice throughout the fishing trip, ensuring it reaches land at peak quality. The fish can be sold at auction, whether directly to wholesalers or consumers.
2. Fish caught by members of the association are marked with a distinctive label that is clearly visible to auction buyers. Buyers can enter the label code or the boat name on the association's website to see where the fish came from.
3. Wholesalers specialising in top-quality products, particularly those selling to high-end restaurants, purchase the labelled fish at a higher price, often 30% higher than trawl-caught sea bass.

Once the fish is sold, the fishers' involvement ends. Specialised wholesalers pay fair prices for sustainable, high-quality products and can in turn make a healthy profit. Selling via the fish auction protects fishers and ensures they get paid within 11 days. Wholesalers and buyers at the fish auction are legally required to deposit a certain amount at the bank before making auction transactions, and this deposit pays the fishers should the agreed buyer be unable to pay or go bankrupt.



© Association Ligneur de la Pointe Bretagne



*Ken Kwahara (association staff member) (left)
and Gwen Pennarun (director of the association) (right)*

Main challenges of setting up and running the initiative

The initial challenge was to resolve the **rivalry among various fishing communities**, a necessary step before forming the association and label. Once the association and label were established, the main hurdle was **overcoming resistance** from trawlers and net fishers who felt their products were devalued. Prior to the label, both groups could benefit from the confusion between their product and longline-caught sea bass.

Some wholesalers also resisted the label, intentionally trying to lower prices of labelled sea bass to below the price of non-labelled sea bass. However, with the help of restaurants and chefs, who advocated for clear labelling of longline-caught sea bass for quality assurance, these issues were resolved. This demand from the end of the value chain helped validate the label.

Running the initiative has proven less challenging than setting it up. Managing an association of 60 members with varying opinions can be complex, but is not a major issue. A full-time employee ensures smooth logistics, allowing the fishers to focus properly on their work.



Future plans

As fishers sell almost exclusively through the fish auction to wholesalers, they are not concerned with finding new clients, which is the responsibility of wholesalers. They are, however, worried about **rising fuel prices** and the continuous **degradation of the ecosystem**.

The potential moratorium on pollack, the second most important longline-caught species caught after sea bass, would significantly affect their income. To diversify, the association is working on **promoting “ugly fish”** like wrasse, gurnard and whiting, for example, through a **2020 campaign** to promote these species. The association is also **exploring new technologies** for fishing vessels, which could **reduce their fuel use or avoid it entirely**.

“Hook and line fishing is a work of passion”.

(Ken Kawahara, secretary of the association)

“The first two to three years weren’t easy, as wholesalers made no effort to support us and sometimes even paid higher prices for unlabelled sea bass to taunt us”.

(Gwen Pennarun, President of the association)

“We try to go against the focus on volume. Much like organic farming, our goal is to produce quality. We don’t exhaust the land, and we won’t exhaust the sea.”

(Gwen Pennarun, President of the association)



Business model – Ligneurs de la Pointe de Bretagne

Key partners	<ul style="list-style-type: none"> • Fishers • Ligneurs de la Pointe de Bretagne • Wholesalers
Key resources	<p>Physical resources:</p> <ul style="list-style-type: none"> • Boat and hook gears • Sticker printing machine • Ice (not mandatory across fleet) • Basic IT resources • Plastic boxes provided by the fish auction <p>Human resources:</p> <ul style="list-style-type: none"> • 1 full-time staff member who runs operations, assists with institutional situations and supports value chain activities <p>Legal resources:</p> <ul style="list-style-type: none"> • Quota for pollack • Boat licence for sea bass
Investment and financing	<ul style="list-style-type: none"> • No initial financial investment, only time and effort • Yearly membership fee of €66 per fisher • €55 for 500 labels
Customer relationship	<ul style="list-style-type: none"> • The higher-quality longline-caught fish is clearly marked and distinguishable from trawl-caught and farmed fish. • Michelin star restaurants supported the label, as they only work with the best quality products. • As the fishers get a higher price for their catch, there is less incentive to overfish, and they can even implement a biological rest period.
Payment arrangements	<ul style="list-style-type: none"> • Wholesalers pay fishers in 1-11 days through the auction system. • Fishers are legally covered by the auction system if a wholesaler fails to pay or goes bankrupt.
Cost structure	<p>Annual costs of around €40,000, which covers the salary of a full-time staff member and small equipment needs.</p>

Customer segments	<ul style="list-style-type: none"> • The only direct customers are the wholesalers at the fish auctions. • Indirect customers include gourmet and Michelin star restaurants, high-end grocery stores and regular fishmongers. <p>Where are the customers located?</p> <ul style="list-style-type: none"> • Throughout Europe, with a majority in France, in particular Paris.
Revenue stream	<ul style="list-style-type: none"> • The initial 2-3 year trial period after the launch of the association and label in 1993 was successful. • Once the wholesalers secured their exclusive clientele and could pay a higher price for labelled fish at auctions, turnover increased within a few years. • The association sells 200,000-250,000 labels per year. • Today, the initiative is profitable enough to cover the salary of 1 full-time staff member.

From threat to treat

BLUEAT PESCHERIA

SOSTENIBILE

Rimini, Italy



Number of fishers	Several cooperatives
Average size of vessels	Around 3 metres
Main gear used	Pots
Main species caught	Blue crab
Species with quota	None
Website	www.blueat.eu

Background

In 2021, in partnership with the non-profit organisation Fondazione Cetacea, Carlotta Santolini embarked on a marine expedition along Italy's Adriatic and Ionian coasts. During the trip, she spoke with local fishers about the effects of climate change and the challenges they faced, in particular the invasive blue crab, which damages nets and preys on juvenile fish. Although some fishers had started catching blue crabs, they needed a more concrete plan.

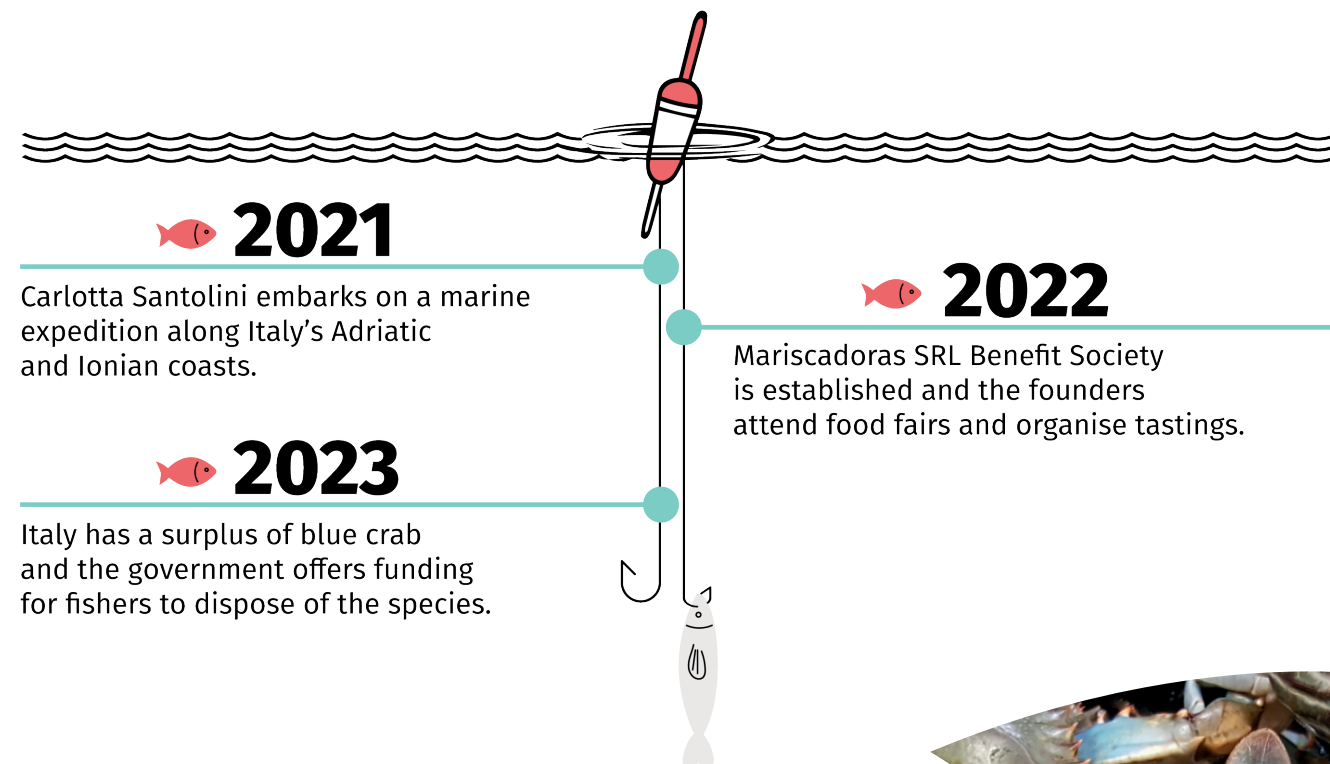
Committed to finding a solution, the young woman returned to her hometown of Rimini and shared her findings with four female friends with varied backgrounds, including marine biology, food and beverages, business, supply chains, and anthropology. Together, they devised a plan to position the little-known blue crab as a culinary delicacy. They attended food fairs and organised blue crab tastings. When invited to a major food fair in Rome, they sought help from a local processing plant in Rimini to process enough crab meat. The public response was overwhelmingly positive.

Motivated by their success, the five women created Mariscadoras SRL Benefit Society with the goal of creating a business with positive environmental and societal impacts. Their first project, Blueat Pescheria Sostenibile (meaning "Blueat sustainable fish shop"), aimed to turn the blue crab threat into a food resource.

They convinced local fishers of the market interest in the species and promised that Mariscadoras SRL would pay them fairly for their catches. Mariscadoras SRL partnered with Tagliapietra e Figli SRL, a local processing plant, which even committed to investing in new machinery for blue crab processing.

For the next 18 months, Mariscadoras SRL studied the product, developed recipes, participated in food fairs, and conducted market research. Having discovered resistance to commercialising blue crab in Italy, they identified the United States as a promising opportunity due to its familiarity with blue crab. At one fair, they connected with a US retailer and sold their first container of blue crab.

Timeline of initiative



Business model

Fishers from the Po delta, specifically in Scardovari, Goro, and Gorino, catch blue crabs with a shell width of 5 cm and female crabs using metal traps. The crabs are unloaded at the harbour in the morning and taken to the Scardovari market. Fishers then choose whether to have the processing company come to pick up the crabs, or to have the crabs delivered to a logistics platform where a truck loads them and brings them to the processing company.

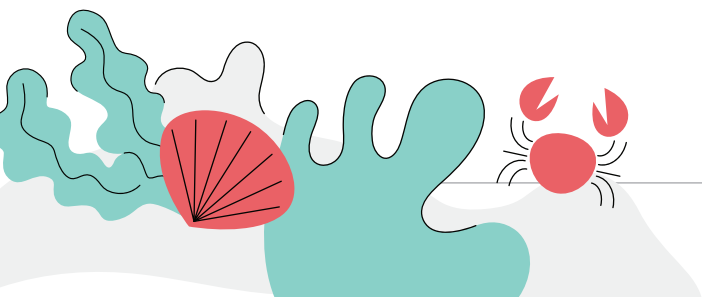
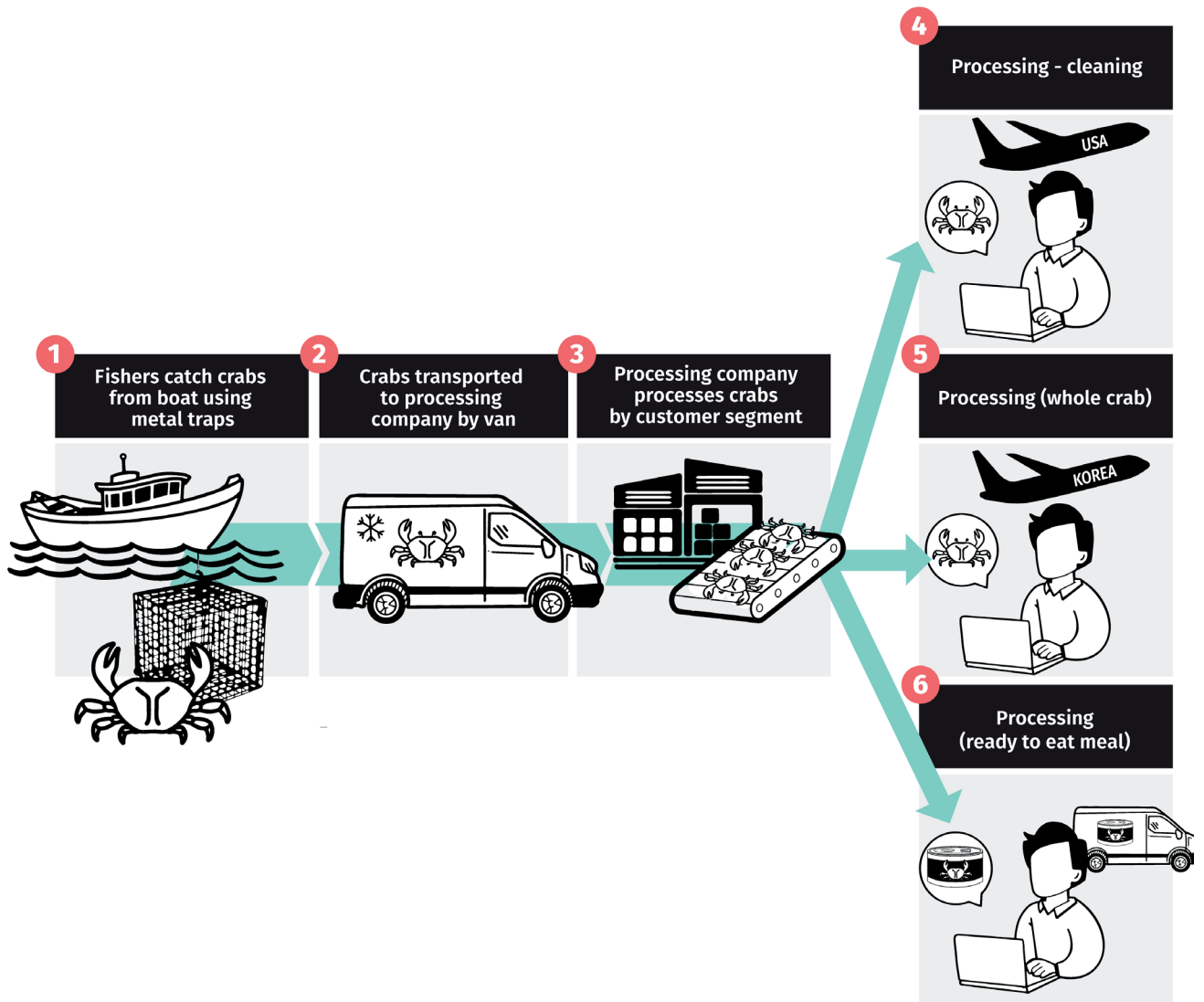


© DCChefAnna

The crabs arrive at the processing plant at around 15.00 or 16.00 the same day, and are processed as per the customers' orders:

- US customers order whole crabs without the carapace, intestines or gills.
- Korean customers order whole crabs, specifically female crabs with eggs.
- Italian customers request pulp, ready-to-eat products, meatballs, and sauces.

Once the blue crab is processed, it is stored in a freezer. Customers place their orders, and the products are subsequently shipped.





© MariscadorasSRL

*“Without a commercial aspect, nobody cares.
If we had established an NGO, it wouldn’t have had the same impact.”*

(Carlotta Santolini)

Main challenges of setting up and running the initiative

Mariscadoras SRL faced several challenges since starting its operations. The initial difficulty was **assembling a team of fishers** and convincing them to focus on blue crab fishing, despite the clear market demand. **Product availability** was also a regular issue, with blue crabs often being sold to Chinese traders, despite existing agreements with Mariscadoras SRL.

Another obstacle was overcoming scepticism from the fishers, who were **hesitant to take young businesswomen seriously** and regularly made inappropriate comments. This was compounded by difficulties in adapting the traditional pots to include a more robust wire mesh, similar to the American model, to withstand the blue crab.

Securing the necessary certifications and export approvals, like the Hazard Analysis Critical Control Point (**HACCP**) **certification** and **export certificates** for the USA, Korea, and China was a lengthy process. The company received invaluable support from a pro bono consultant.

High processing costs in Italy posed another challenge, as American buyers found the **prices too steep**. Mariscadoras SRL, committed to fair wages throughout the value chain, successfully convinced the American market of its product’s worth. The processing plant on which Mariscadoras SRL relied also faced limitations, struggling to meet demand due to a lack of pulp extraction **machinery, storage capacity, and manpower**.

In 2023, a surge in the blue crab population led to increased media attention and supermarket interest. While fishers initially preferred to sell their blue crab to the supermarkets, despite supermarkets only being interested in small quantities of around 10 kg, Mariscadoras SRL managed to secure agreements to buy large volumes (1000 kg a day) from the fishers, ensuring a steady supply.

Later in 2023, the blue crab surplus prompted the Italian government to allocate €9 million for fishers to dispose of the excess crab. Arguing against this wasteful approach, Mariscadoras SRL appealed to the Ministry to market the crab as a valuable food resource instead.

Future plans

Mariscadoras SRL is actively pursuing several exciting initiatives. It has submitted **project proposals** for two EU research projects: one aims to develop a groundbreaking supply chain for **textile fibres** extracted from blue crab shells, while the other is a collaborative effort with partners from North African countries and Greece to build a robust **data collection** system for blue crabs and foster **citizen science**. Alongside its research endeavours, Mariscadoras SRL is committed to promoting **international cooperation**, having applied to an ERASMUS+ project to establish a knowledge exchange network among fishing communities working to combat invasive species.

“The blue crab was perfectly good to eat, but no-one was trying to commercialise it.”

(Carlotta Santolini)

On the commercial side, 50% of Mariscadoras SRL's production goes to the international market, and the other 50% to the Italian market. To boost its national presence, Mariscadoras SRL plans to incorporate **e-commerce** capabilities, facilitating direct sales to private Italian customers. This initiative is now possible due to a new cold-chain offer from the national postal service, which allows competitive pricing for deliveries. In addition, Mariscadoras SRL is in the process of negotiating commercial agreements with national supermarket chains to offer ready-to-eat blue crab products.



© MariscadorasSRL

Looking ahead, Mariscadoras SRL plans to establish a **warehouse for storing and cleaning crabs** destined for the US market. This strategic move is expected to expand its customer base in the US and enhance operational efficiency. The company is also in the process of forging **trade relationships with China**, a key market for its products.

“Let's show who we are. It's not because we're young women that we can't create something.”

(Carlotta Santolini)

Business model – Blueat Pescheria Sostenibile

Key partners	<ul style="list-style-type: none"> Fondazione Cetacea In-kind consultant to establish market relations with the United States Tagliapietra e Figli SRL
Key resources	<p>Physical resources:</p> <ul style="list-style-type: none"> Facilities and materials at the processing plant (cartons for freezer storage, work table, machinery to extract pulp, pasteurising machine, vacuum machine, labelling and packaging machine, plastic bags, jars, preparation kitchen, oven) Ice Bins Pallets and pallet trucks Cold-storage vehicles <p>Legal resources:</p> <ul style="list-style-type: none"> Export certifications and company registration HACCP
Investment and financing	<ul style="list-style-type: none"> Initial investment of €65,000 comprised of: <ul style="list-style-type: none"> » Personal funds: €20,000 » Intesa San Paolo Bank: €30,000 » Prize winners: €15,000 For the processing, Tagliapietra e Figli SRL invested with their own resources
Customer relationship	<ul style="list-style-type: none"> Eating an invasive species that threatens Mediterranean biodiversity. Supporting a business run by five young women. USA, Korea, China: Existing demand for blue crab. Italy: Curiosity to discover new seafood.
Payment arrangements	<ul style="list-style-type: none"> USA: <ul style="list-style-type: none"> » 10% upon order placement » 30% at container shipment » 60% upon arrival of the container Korea: <ul style="list-style-type: none"> » Letter of credit provided by the bank. When the container is shipped, the money arrives Italy: <ul style="list-style-type: none"> » Upon order placement Mariscadoras SRL pays the fishers directly for their blue crab.
Cost structure	<ul style="list-style-type: none"> 10% profit, but being an innovative start-up they have to invest the money in innovation. 90% costs (crab storage, processing, labour, transportation, etc.).
Customer segments	<ul style="list-style-type: none"> USA: retailers Korea: retailers China: in the future Italy: supermarket, pasta factory, restaurants, retailers
Revenue stream	<ul style="list-style-type: none"> In 2023, 162 tonnes of blue crab were sold, corresponding to 1,600,000 crabs Revenue of €500,000 in 2023 Return on investment achieved in 1.5 years

The ethical fishmonger

SOLE OF DISCRETION

Plymouth,
Devon, United Kingdom



Number of fishers	Contact list includes 12 fishers, with usually a maximum of 2 selling to Sole of Discretion weekly
Average size of vessels	Under 12 metres, except for one larger vessel fishing for hake
Main gear used	Gillnets, lines, pots, and diving
Main species caught	Pollack, whiting, pout, wrasse, dogfish, lemon sole mackerel and scallop
Species with quota	Pollack, sole, plaice, hake, haddock, scallop and sea bass
Website	soleofdiscretion.co.uk

Background

In 2004, restaurant owner Caroline Bennett attended a conference organised by Terra Madre, an international network that promotes a sustainable and fair food system mainly by connecting small-scale producers, academics, cooks, and consumers. There, she met a small-scale fisher and decided to start sourcing her seafood from him and other local small-scale fishers, moving away from MSC-certified fisheries, which was the only alternative with traceability.

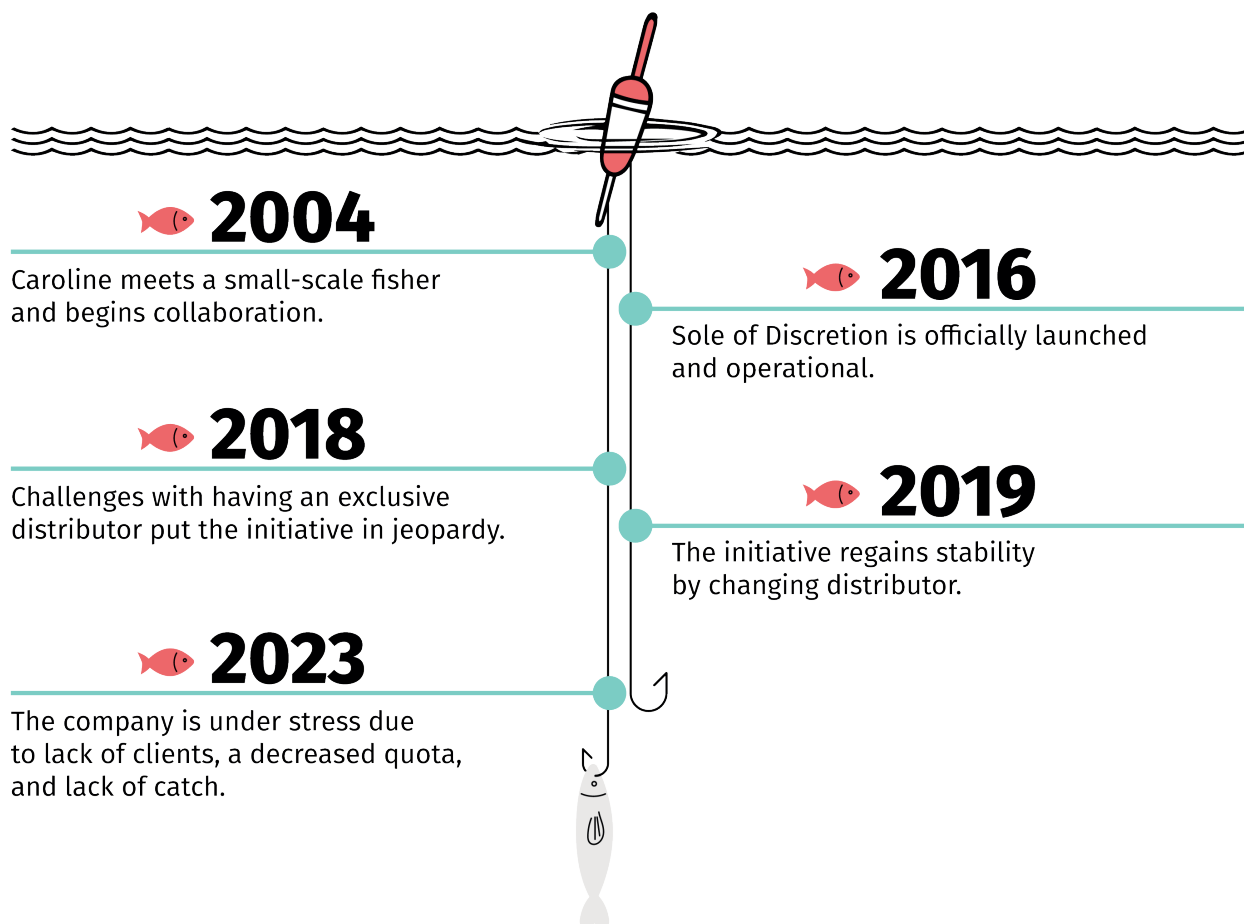
Others in the gastronomic field soon followed. However, at retail level, it was impossible to distinguish between small-scale low-impact industrially caught products in terms of traceability. Moreover, many artisanal fishers had no access to nearby fish auctions dedicated to retail buyers, leaving them dependent on wholesalers who controlled the final price of their catch.

To address these issues, Caroline, assisted by a local fisher, connected with local processors who valued the higher quality product from the small-scale fishers. She also partnered with Riverford Organics, an organic farm and vegetable box distributor, benefitting from their existing client base. In 2016, with sourcing, processing and distribution already in place, Caroline launched Sole of Discretion, an online selling platform that acts as an intermediary between small-scale fishers and private customers.

Once a secure client base was established, Caroline was able to expand the business, buying from more small-scale

fishers and investing in the infrastructure necessary for long-term viability. The company's main aims remain to create a fairer selling system that financially rewards small-scale fishers for their high-quality product, to improve transparency for the general public in terms of the traceability of their seafood, and to reduce the impact of fishing on marine ecosystems by incentivising fishers to follow certain sustainability guidelines.

Timeline of initiative



Business model

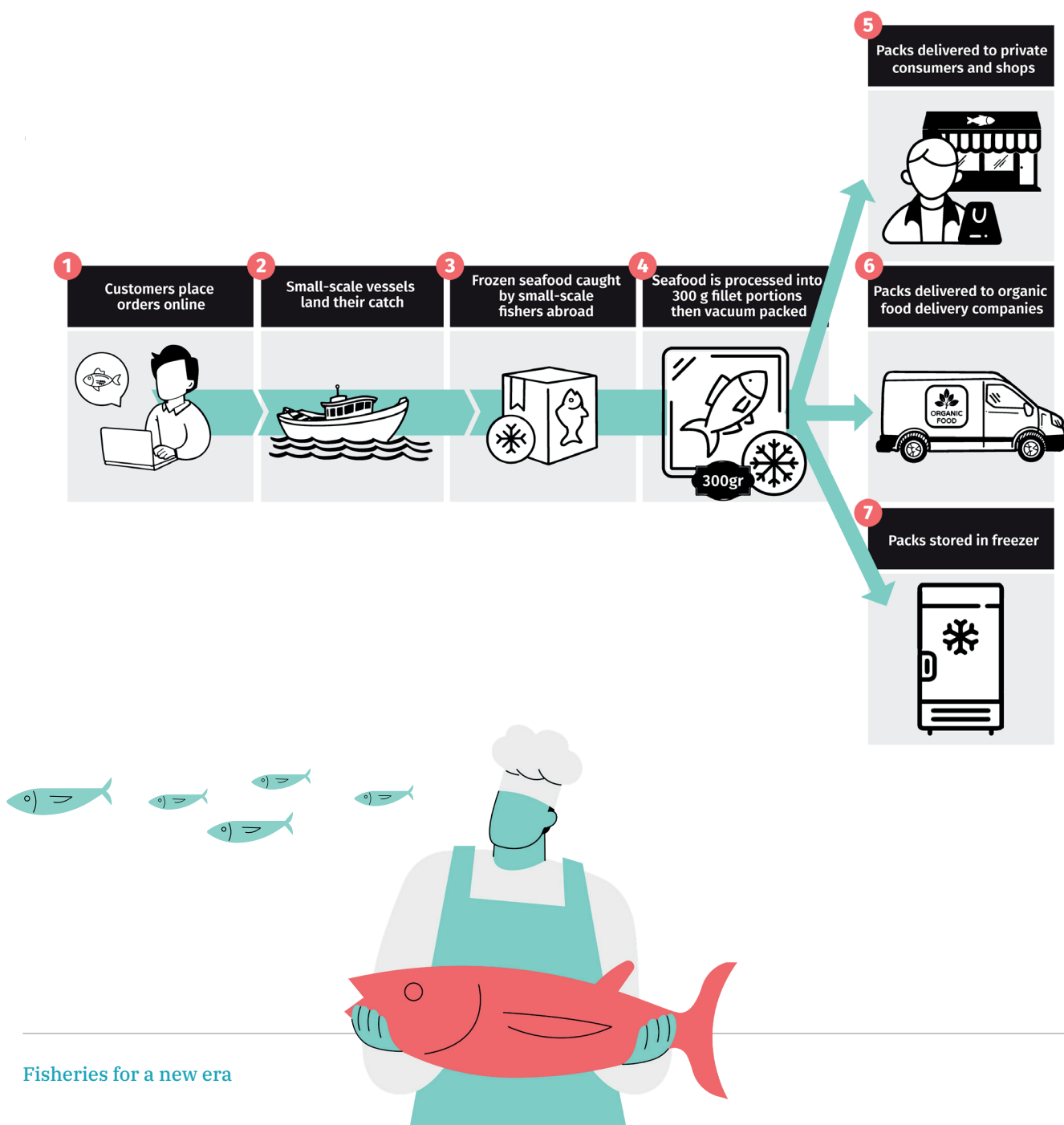
Sole of Discretion is an online selling platform that acts as an intermediary between small-scale fishers and private customers. The company's business model is essentially based on supply and demand. In ideal circumstances, the company buys the catch fresh from local small-scale fishers when they return from a fishing trip, prepares it in 300 g packs, and resells it directly to private consumers the same day.

However, there can be considerable mismatches between supply and demand, requiring adaptations to the business model. Sole of Discretion is highly reliant on frozen products, using blast freezing to retain the high quality of its seafood. Freshly caught seafood bought from local small-scale fishers is processed into vacuum packs of 300 g fillet portions and then blast-frozen within 24 hours of landing. It is then stored in a walk-in freezer and taken out according to demand. Sole of Discretion needs an average of 2000 packs of 300 g each, totalling about 600 kg of fillet, to satisfy weekly demand. If local supply is not enough to cover demand, the platform sources high-quality blast-frozen products from small-scale fishers based in Alaska, Ireland and Spain.

Around half of the 2000 packs sold every week are put into an insulated box with ice and delivered, by standard couriers, to customers the following day before 17.00. This delivery method is geared towards private consumers and other shops. The remaining packs are sent in bulk to Abel & Cole, a UK-based organic food delivery company, for further distribution to its customers.

The process is as follows:

1. Customers place their order according to what is available on their chosen delivery date.
2. Small-scale fishers land their catch in the ports, and Sole of Discretion buys it.
3. Sole of Discretion also buys high-quality blast-frozen seafood from small-scale fishers in Alaska, Spain and Ireland.
4. Sole of Discretion brings the seafood to the processing plant, where it is prepared into 300 g fillet portions and then vacuum packed.
5. Fresh packs are delivered to private consumers.
6. Fresh packs are delivered to UK-based organic food delivery companies.
7. Packs are blast-frozen and stored in the walk-in freezer, ready to be taken out according to demand.



Main challenges of setting up and running the initiative

Before launching Sole of Discretion, Carole Bennett had secured essential value chain partners for production, processing and distribution. However, the company's initial distributor, with whom it had an exclusivity agreement, backed out due to the **lack of third-party labelling** for seafood from small-scale fishers. This left Sole of Discretion without a client base and in financial distress. The issue was resolved when Caroline connected with Pintafish, a Belgian sustainable seafood distributor, at a Terra Madre event. With no small-scale fishers left in Belgium, Pintafish agreed to source its product from Sole of Discretion, providing a stable income that ensured the initiative's survival and expansion.

Despite this turn of events, Sole of Discretion still faces multiple challenges. The higher price of small-scale seafood and the disappearance of many small-scale retailers have **reduced its client base**. **Declining fish populations** and **decreasing quotas** also put strain on the initiative, forcing price increases to remain profitable. In addition, **Brexit** has massively increased bureaucracy and the cost of exporting to the EU, a market that used to be important to Sole of Discretion. The company continues EU sales only due to the strong relationship with Pintafish, though it no longer makes financial sense.

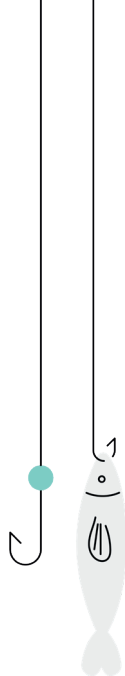
Another difficulty is the **lack of consistency in local product availability**, as small-scale fishers do not catch enough fish to meet constant demand. Sole of Discretion employs up to four processors in its plant and needs to be able to process 2000 packs of 300 g per week. To bridge the gap in supply, it sources top-quality frozen products from other small-scale fishers, most recently from Alaska, Ireland and Spain. When local products are not available, Sole of Discretion can defrost this product, maintaining stable employment and supply. The company has also tried blast-freezing herring caught in UK waters, but that market and technique are still in a trial phase.

“As a consumer, you had no way to differentiate industrial and small-scale seafood. This is what drove the creation of Sole of Discretion.”

(Caroline Bennett, founder of Sole of Discretion)



© Caroline Bennet



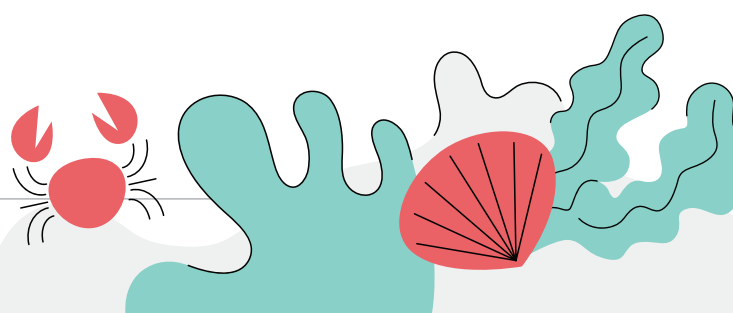
© Caroline Bennet

“When you work with small vessels, you have to worry about continuity of supply, but you also have the difficulty of guaranteeing income for your processing employees. That’s why it is so important for the platform to work with frozen products.”
(Caroline Bennett, founder of Sole of Discretion)

Future plans

Sole of Discretion currently plans to **expand its offer**, with a particular focus on smoked fish which could attract a broader client base due to its easier preparation, storage and delivery compared to frozen products.

The initiative is also invested in creating a **label for small-scale low-impact fisheries**, which would legitimise the low impact and sustainability of their products. This label could be created and supported by Low Impact Fisheries of Europe (LIFE), an NGO supporting small-scale fisheries in Europe through funding, capacity building and institutional assistance. An EU-wide small-scale fisheries label would strongly enhance the credibility of platforms like Sole of Discretion and appeal to customers and supply chain actors seeking sustainable seafood sources.



Business model – Sole of Discretion

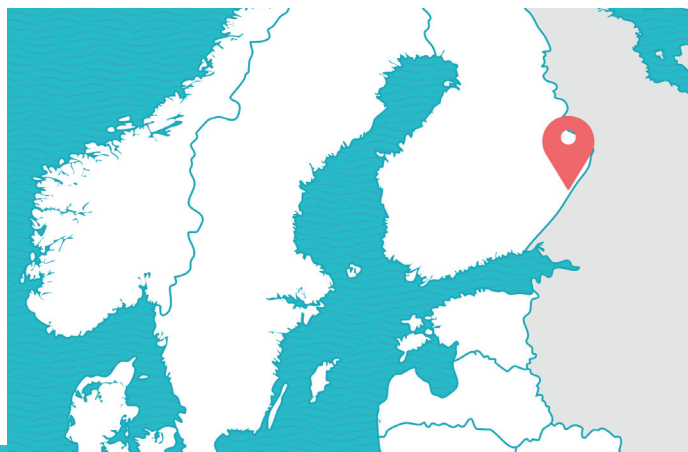
Key partners	<ul style="list-style-type: none"> • Pintafish • Small-scale fishers, based in the UK or abroad • Open Food Network, which hosts the selling platform • Abel & Cole, an organic food delivery company
Key resources	<p>Physical resources:</p> <ul style="list-style-type: none"> • Processing room: hygienic white walls, chopping boards, scale for big fish, scale for small portions, big vacuum packer, single-use plastic • Blast freezer, huge walk-in freezer (3x5m), big fridge • Fish cake production unit <p>Human resources:</p> <ul style="list-style-type: none"> • 4 full-time staff at the processing plant who defrost, filet and vacuum pack products before passing it to the courier for distribution • 1 full-time office staff member
Investment and financing	<ul style="list-style-type: none"> • Initial investment was about GBP 260,000 (€358,000), which covered the construction of the processing plant, walk-in freezer, fridge and all the necessary equipment, including GBP 9000 (€12,400) for the vacuum packing machine. • Funding was secured through the Royal Bank of Scotland and the NatWest Social Capital fund.
Customer relationship	<ul style="list-style-type: none"> • The initiative benefits customers by offering access to high-quality sustainably sourced seafood from small-scale low-impact fisheries. • Although current fish auction prices are high, fishers still use Sole of Discretion to sell their less valuable species, as it provides a floor price of GBP 1.50/kg (€1.72/kg). • By providing a market for less valuable species, the initiative helps fishers complement their income, and reduces pressure on fish stocks and marine ecosystems.
Payment arrangements	<ul style="list-style-type: none"> • Private consumers and shops pay when they order on the website. • Abe & Cole pay on a 6-week schedule.

Cost structure	<p>Annual costs of around GBP 40,000 (€46,000), which covers the salary of a full-time staff member and small equipment needs:</p> <ul style="list-style-type: none"> • equipment and maintenance: 1% • electricity: 10% • ice: <1% • staff: 60%
Customer segments	<ul style="list-style-type: none"> • 30 private consumers and shops, who order directly through the website. • Abel & Cole, an organic food delivery company, distributing to about 1000 customers each week. <p>Where are the customers located?</p> <ul style="list-style-type: none"> • Throughout the UK, with the biggest markets being in London and Bristol.
Revenue stream	<ul style="list-style-type: none"> • The platform sells around 2000 packs of 300 g per week, totalling around 600 kg of fillet. • Yearly revenue peaked at around GBP 830,000 (€966,000) during the COVID-19 pandemic but fell to GBP 490,000 (€575,000) in 2022 due to a major customer, responsible for 45% of sales, going bankrupt.

Young people learning new trades

SNOWCHANGE COOPERATIVE

Tohmajärvi, Finland



Number of fishers	3 fishers
Average size of vessels	2 skidoos in winter; in summer, 2 boats of around 7 meters
Main gear used	Winter seine and fyke trap/net
Main species caught	Vendace in winter; in summer, common bream, pike, pike perch, ide and roach
Species with quota	None
Website	www.lumikala.com

Background

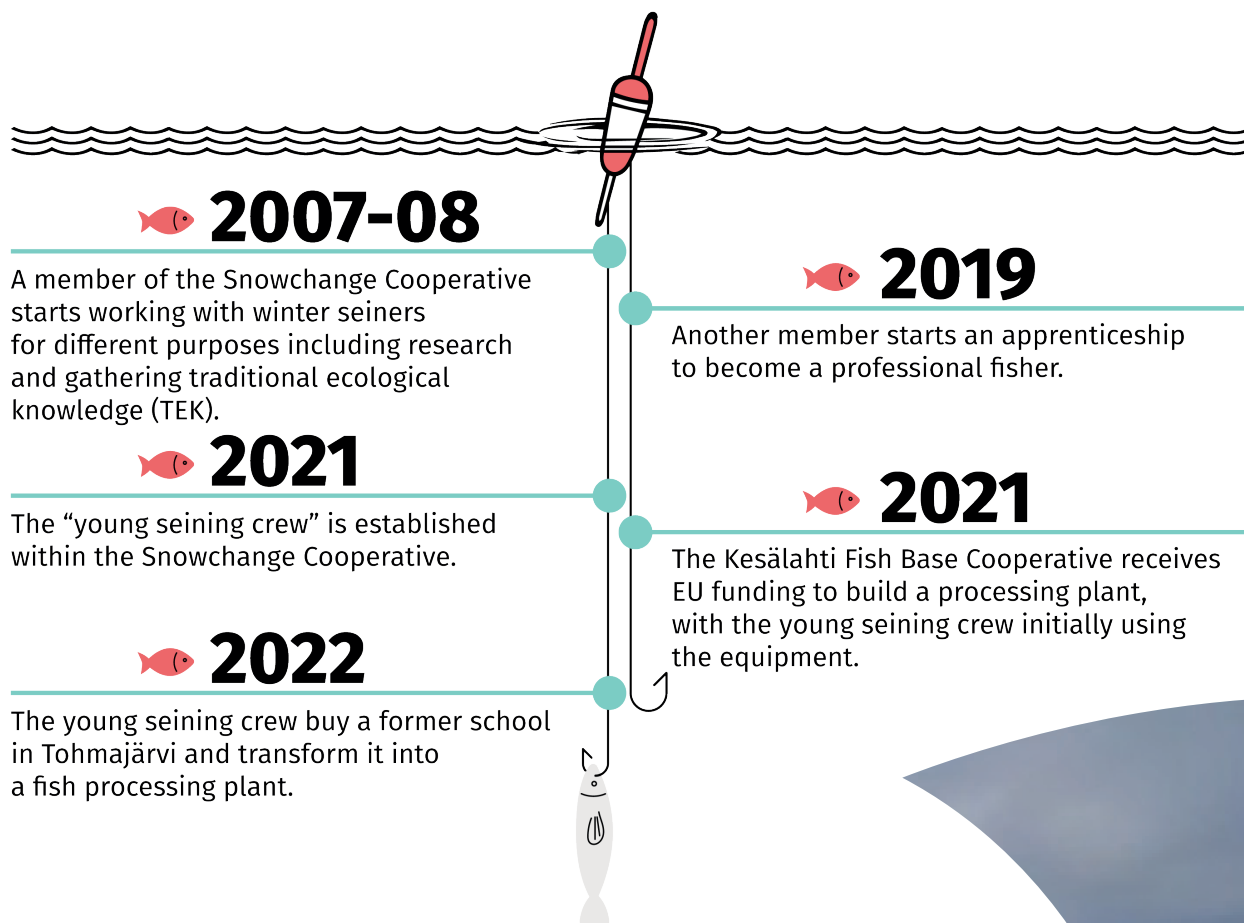
Snowchange Cooperative, based in Finland, is a non-profit cooperative practicing professional small-scale fishery, ecological restoration, and research. It is also a network of indigenous peoples and local communities across the Circumpolar North dedicated to preserving traditional knowledge and ways of life.

One of their key activities is training the next generation of ice fishers. Finland, along with parts of Sweden, Estonia, Norway, and north-west Russia, is home to unique ice-fishing cultures centred on freshwater lakes and rivers. Ice fishing involves catching fish through an opening in the ice, and traditional Finnish methods include standing gill nets, fish traps, and seining. These techniques are part of a long-standing winter fishing culture that spans Siberia, the Fennoscandian North, Greenland, and North American boreal and Arctic regions.

In 2021, the Snowchange Cooperative established a new group called the “young seining crew” which practices professional winter seining on Puruvesi Lake. This team of young people divided their responsibilities, with three focusing on seining, and two on processing and sales. They began selling unprocessed fish to a canning factory and directly to consumers, as well as processed fish to a local bakery. They also leveraged their academic connections, hiring colleagues to help with the fish processing and logistics.

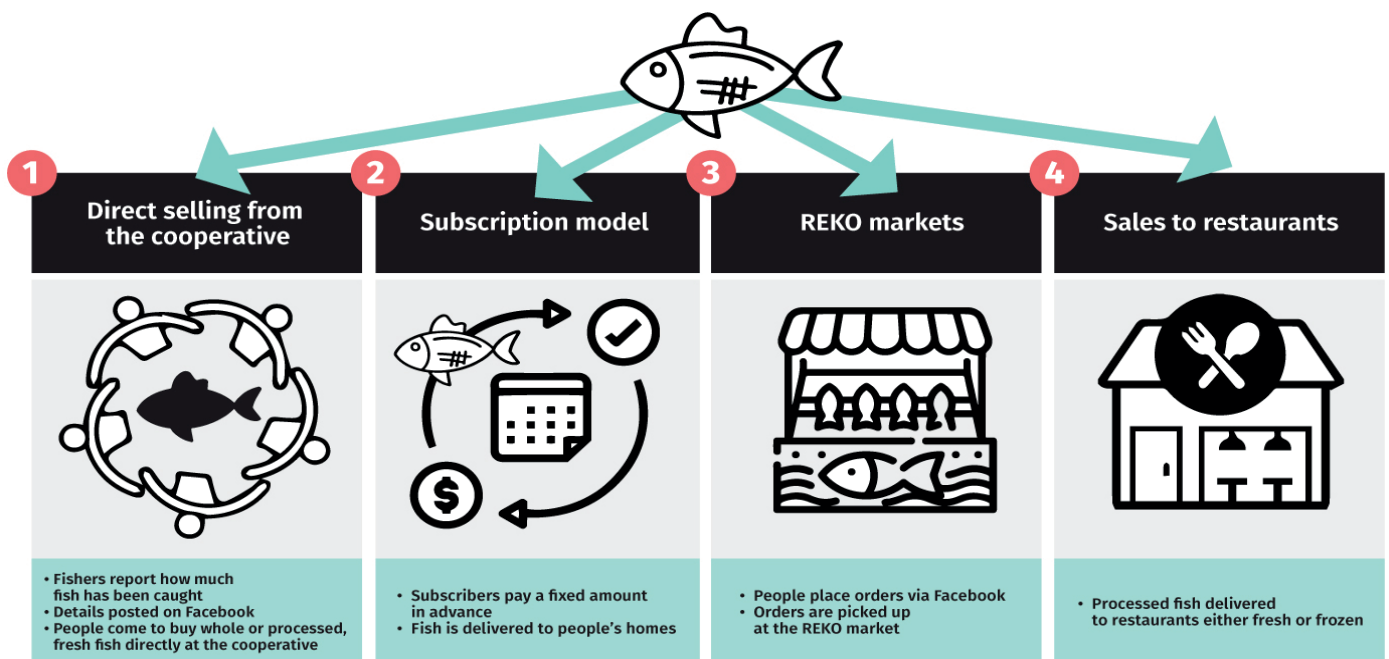
The young seining crew initially used the fish processing facility of another cooperative, the Kesälahti Fish Base Cooperative. However, after conflicts arose, the crew started to look for a new location, and turned an old school in Tohmajärvi into their new processing plant in spring 2022.

Timeline of initiative



© Snowchange Cooperative

Business model



The initiative operates through various strategies. The first strategy involves direct selling from the cooperative. Fishers report their catches daily, and the details are posted on Facebook. The next day, interested buyers come to the cooperative to buy whole or processed fresh fish directly. Any fish not sold fresh the day after fishing is either frozen or canned for future use.

The second strategy is a subscription model, which is currently in a trial phase. Customers pay a fixed seasonal amount of €75 euros in advance and which equals 13 kg of fresh whole fish delivered throughout the winter seining season.. The orders are delivered directly to their homes once a week.

The third strategy involves REKO markets, a Finnish trading movement focused on “fair consumption” that operates on a pre-order system via Facebook. Every week, the cooperative advertises its products on Facebook, and people order on Facebook or by email and collect their items at a public marketplace. This also serves as a social gathering for all involved. Customers can order various products, including processed fish (filleted, headed and gutted, and frozen and vacuum-packed), canned fish, glass jars of fish, and dry fish meals for pets. REKO is a free system, although some cities charge a €5 annual fee for the rental of the public space. At the marketplace, food producers have about 30 minutes to sell their products. The young seining crew participates in multiple REKO markets, including the largest one, in Helsinki, which is a five-hour drive away and requires a three-night stay.

The fourth strategy is selling to restaurants locally and in Helsinki. Headed and gutted fish is sold fresh to local restaurants and frozen to restaurants in Helsinki.



Main challenges of setting up and running the initiative

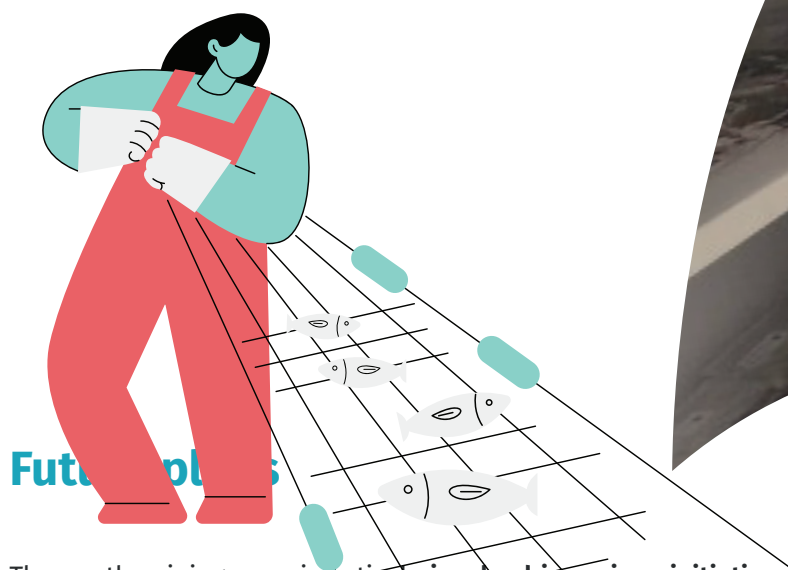
When the young seining crew first formed, there was a **significant knowledge** gap due to their lack of experience in seining, processing, and selling the fish. This was later solved through interaction with, and mentoring from elder fishers, experimenting and trying out creative solutions as well as with continuous practice. The inexperienced team, despite their youthful enthusiasm, also faced the uncertainty of catch success. They initially had difficulties communicating this aspect to their customers, though later became more adept as their business model evolved. Alongside external communication, internal communication within the team was marked by misunderstandings in the early days, due to a lack of understanding of the specific challenges associated with the different roles and functions.

When the crew first launched their activity, their **clientele was limited** to bakeries, canning plants and supermarkets, resulting in relatively low returns. As a result, they shifted their strategy towards direct sales, which has since led to increased interest from restaurants and households. However, a larger group of regular customers to buy fish directly from the crew would still be needed to make ends meet. The **costs of the fishery** (salaries, gear, and maintenance of the processing plant) are much higher than the income from fish sales.

One challenge that remains today is **serving customers living in remote areas**. These rural residences are often far from the crew's base, requiring extensive driving, which increases the logistical burden.

“I was involved in local organic food production and there, I learned that direct sales are most beneficial for producers. I wanted to apply this to fishing.”

(Noora Huusari, member of the young seining crew)



The youth seining crew is actively **involved in various initiatives** within the Snowchange Cooperative, including ecological restoration as well as research on restoration and traditional

Fisheries for a new era



ecological knowledge (TEK), among other issues. Notably, a portion of the funding received through these initiatives is allocated to the young seining crew.

The former school in Tohmajärvi has been transformed into a thriving processing plant. The crew has revitalised the space, creating a hub for creativity and innovation. They have also established a library, hosted art exhibitions, festivals, workshops and a pop up restaurant and cafe.. The space can also be rented. The crew hopes that these parallel activities would help cover the building's maintenance costs one day.

Looking ahead, the crew is planning to implement a community-supported fisheries model and establish a canning station within their processing plant. Once operational, the crew aims to broaden their market reach, focusing on Europe with a special emphasis on Germany.

“It would be better to have more time to engage with consumers [at REKO]. But this is the kind of market culture nowadays in Finland, the traditional market has disappeared.”

(Noora Huusari, member of the young seining crew)



Business model – Snowchange Cooperative

Key partners	<ul style="list-style-type: none"> • Older fishers • Direct Sales channels: REKO markets, Joensuu Organic and Local food group, Uudenmaan ruoka Foodhub • Restaurants • Pintafish
Key resources	<p>Physical resources:</p> <ul style="list-style-type: none"> • Cardboard boxes • Tables for cleaning fish • Baskets for drying fish • Vacuum machine and plastic bags • Cold-storage vehicle • Card payment machine • Knives, cutting board, spoons • Walk-in fridge, walk-in freezer • Cold liquid • Processing plant (former school) • Electricity • Skidoos • Fishing nets <p>Human resources:</p> <ul style="list-style-type: none"> • 3 fishers (2 of them also involved with processing) • 1 driver in Helsinki. Driving in our region done by people who process the fish. • 5 people processing fish • 2 people involved with selling and marketing the fish • 1 advisory member <p>Legal requirements:</p> <ul style="list-style-type: none"> • Food business registration (including HACCP, hygiene passports and hygiene sampling) • Fishing licensing registration • Online reporting of the catch to the authorities • Business ID for sales
Investment and financing	<ul style="list-style-type: none"> • Set-up costs of €250,000: <ul style="list-style-type: none"> » €67,000 from the European Maritime, Fisheries and Aquaculture Fund (EMFAF) » €183,000 from foundations

Customer relationship	<ul style="list-style-type: none"> • Traditional fishery • Fish come from a Lake Puruvesi, a protected geographical indication (PGI) where the water quality is high • Fishery led by young seining crew
Payment arrangements	<ul style="list-style-type: none"> • Direct selling at the processing plant with payment in cash or by bank card. • Subscription model with fixed monthly prepayment. • Direct selling at the REKO market with payment in cash or by card.
Cost structure	<ul style="list-style-type: none"> • Salaries: 63% • Maintenance: 31% • Fuel: 3% • Other (buying tools, equipment): 3%
Customer segments	<p>A few hundred private consumers and some restaurants.</p> <p>Where are the customers located?</p> <ul style="list-style-type: none"> • Mostly in Helsinki, but also in Tohmajärvi and Joensuu • Belgium (through a distributor, Pintafish)
Revenue stream	<p>The initiative is still in the investment phase and relies on funding to keep it running:</p> <ul style="list-style-type: none"> • The processing plant has huge monthly costs for electricity and heating, especially in winter. • Fishers are paid a monthly salary that is not dependent on the amount of fish they catch. Their salaries are higher than the revenue from fish sales.

Stronger together THORUPSTRAND KYSTFISKERLAUG

Thorupstrand, Denmark



Number of fishers	8 vessels with 2-3 fishers per vessel (depending on the gear used)
Average size of vessels	2 vessels under 12 meters, 6 vessels under 14 meters
Main gear used	Mainly Danish seine and gillnets, with traps or longlines to a lesser degree
Main species caught	Plaice from May to October; cod from September to April
Species with quota	Cod, plaice and sole
Website	thorupstrandfisk.dk

Background

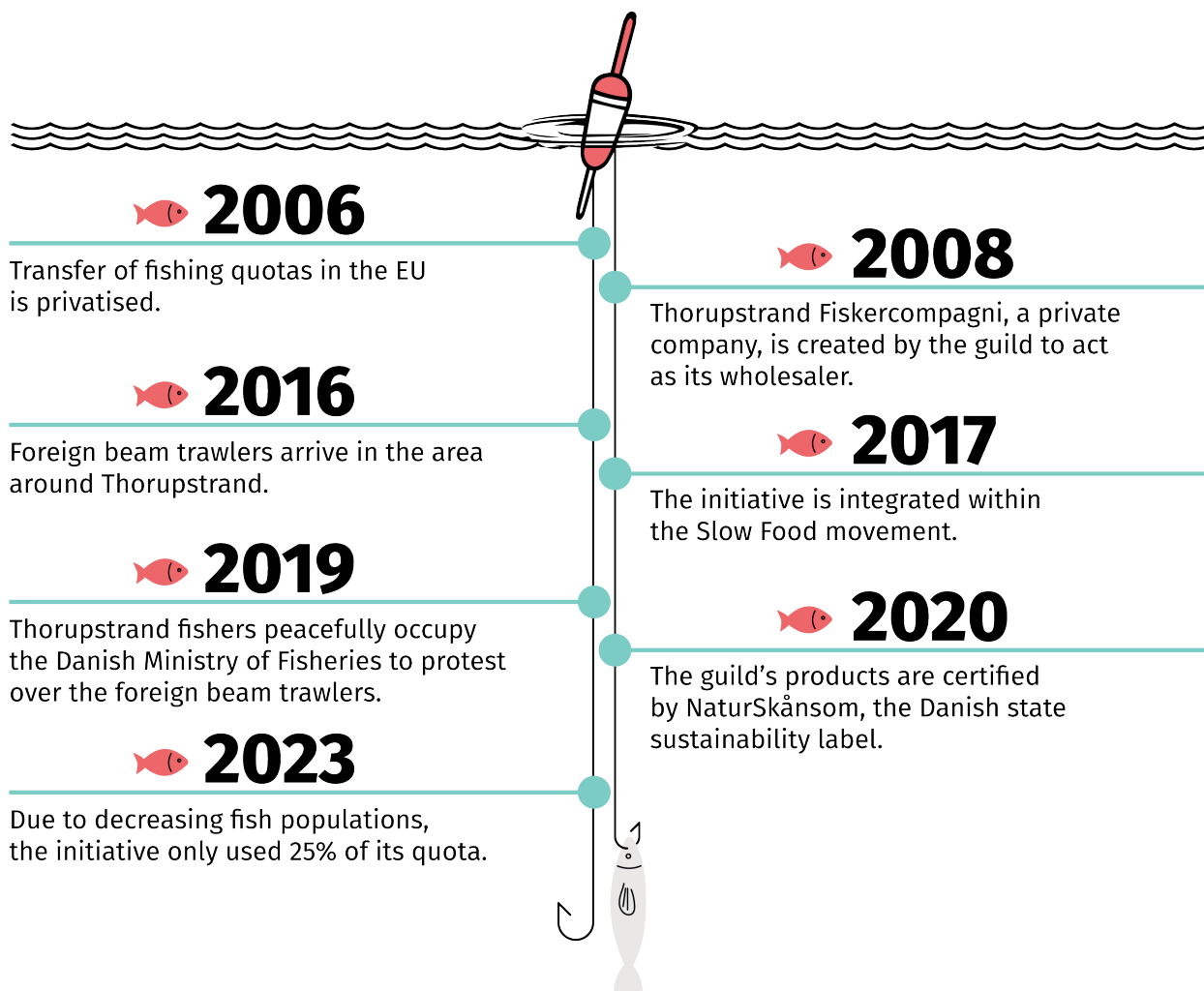
In 2006, the European Union introduced new regulations authorising the transfer of fishing quotas and allowing them to be bought and sold. Intended to provide flexibility for fishers who wanted to increase or decrease their activity, this privatisation also resulted in corporations speculating on fishing quotas as a commodity. Following the implementation of the regulation, villages in the Skagerrak area, including Thorupstrand, received aggressive offers from investment funds. Within a month, the neighbouring village of Lildstrand had ceased all fishing activity, selling its quotas to larger corporations. The price of fishing quotas skyrocketed by 1000%, threatening the livelihoods of local fishers.

To preserve their way of life, fishers from Thorupstrand decided to buy part of the Danish fishing quota in Skagerrak. To be able to collectively own the quota, they had to create a legal entity called a quota guild, requiring at least seven members, each with the same share and owning a fishing vessel. The concept drew inspiration from Denmark's history of community-led fishing companies in the 1900s, where coastal communities owned vessels collectively and relied on community-based governance.

Before this initiative, the legal framework for a quota guild did not exist in Denmark, so the fishers worked with lawyers to establish the structure from scratch. Once formed, Thorupstrand Kystfiskerlaug, the Thorupstrand coastal fishing guild, secured a bank loan of DKK 50 million (€6.7 million) to buy a part of the quota. Since then, the guild has retained its quota, steadily repaying the loan.

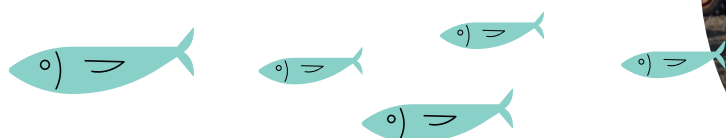
The quota is divided equally among the current eight vessels of the guild, with each boat receiving its own quota of plaice and cod. New guild members must buy a share for DKK 100,000 (€13,400), and departing members sell their share back at exactly the same price, preventing speculation and allowing younger fishers to join. As the guild is community-led, each member can vote on decisions and actions of the guild.

Timeline of initiative

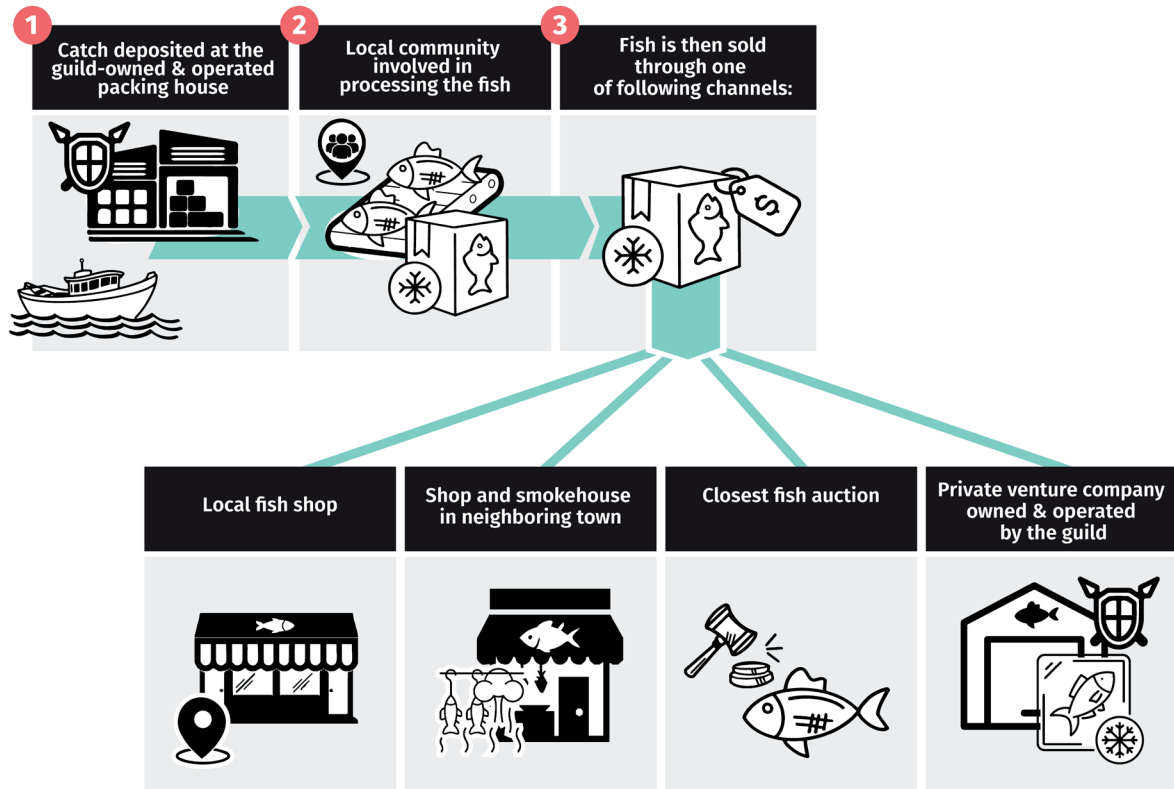


Business model

Thorupstrand Kystfiskerlaug is a quota guild, a community-based association that owns fishing quotas and distributes them equally among its members. It currently owns about 5% of the Danish cod quota in Skagerrak, which usually yields about 100 tons in the North Sea and 100 tons in Skagerrak. The cod quota and yield have recently decreased due to cod recovery efforts. It also owns part of the Danish plaice quota in Skagerrak, which usually yields about 1000 tons of plaice in Skagerrak and 300 tons in the North Sea.

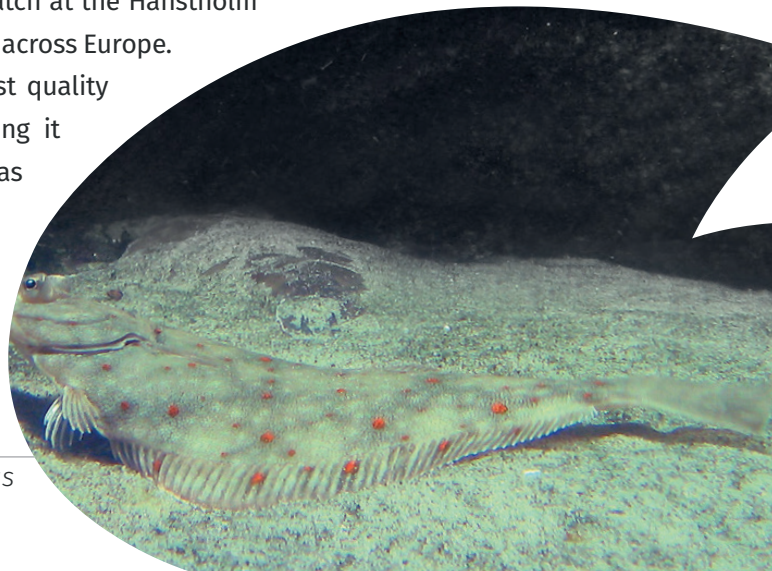


The Thorupstrand Kystfiskerlaug business model is as follows:



1. Fishing vessels return from their trip and deposit their catch at the packing house in Thorupstrand, which is owned and operated by the guild.
2. The fish is cleaned, gutted, iced, and packed with the help of the local community, providing a small income to participants, usually teenagers or seniors.
3. The fish is then sold through various channels:
 - A local fish shop selling seafood products to tourists and visitors.
 - A shop and smokehouse in the neighbouring town of Vester Thorup.
 - At the closest fish auction, located in nearby Hanstholm.
 - At the Thorupstrand Fiskercompagni, a private company owned and operated by the guild.

The decline of plaice and cod populations in Skagerrak has led to large increases in price. As a consequence, the guild currently sells almost all its catch at the Hanstholm fish auction to wholesalers who supply gourmet restaurants across Europe. Fish caught by the guild is certified as “E-fish”, the highest quality certification in the European fish auction system, meaning it commands a particularly high price. Although the guild has agreements with wholesalers throughout Scandinavia and Germany, the current high prices have limited these wholesalers’ purchasing capacity.



The guild's products are also certified by various other schemes, including Denmark's state-sponsored Naturskånsom label. This label, created in 2020, has strict requirements, including the exclusive use of gentle gears, boats under 17 metres long, and food handling courses. It also connects the guild with a wide range of partners within Denmark, including fishmongers, restaurants and selected supermarkets. The products are also certified by Germany's Naturland label, which would allow easy commercialisation abroad should prices return to normal. The integration of the guild into the Slow Food movement in 2017 has also allowed it to develop a stronger presence abroad, with most of its products being consumed in gourmet restaurants in southern Europe.

“When you have an empty sea, it is very difficult to survive.”

(Thomas Højrup)

Main challenges of setting up and running the initiative

Before the privatisation of fishing quotas and the subsequent need for collaboration, fishers were divided into competitive “clans” or large family networks. This clan mentality made **early collaboration quite challenging**, as older fishers did not trust members of other clans. To overcome this, **younger fishers** organised round table discussions to explore possible ways forward, seating members of different clans to foster dialogue and cooperation. Through these discussions, fishers discovered shared goals and priorities, which helped the older generation see the benefits of working together for the community's common good.

Once the guild model was established, older fishers also expressed interest in integrating the younger generation. Today, to ensure its longevity and proper functioning, the guild has various initiatives to **attract younger generations**, including **financial assistance** to **contract bank loans**, as well as **housing support** and **training** from the other fishers.

As for the current state of the quota guild, its governance and model are still respected through **community-based management**, and its day-to-day operations function well. The guild's current challenges stem from **economic crises** and the **worsening fishing conditions** in Skagerrak. Prior to 2016, the guild fishers usually met close to 100% of their quota, which was about 200 tons of cod and 1300 tons of plaice. However, since then, they have been unable to reach more than 40% of their quota, with the 2023 catch reaching only 20-25%.

The arrival of foreign industrial beam trawlers in the area in 2016 has **degraded the local marine ecosystem**, impacting fish populations. These trawlers target Norwegian lobster (*Nephrops norvegicus*), but the small mesh size of their nets means high quantities





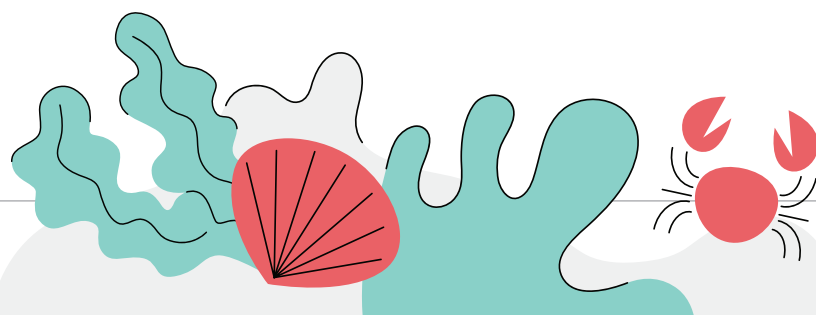
© Thomas Højrup

of cod are caught as bycatch. This gets discarded as these vessels have no quota for cod. The declining cod population leads to increases in the Norwegian lobster population, which in turn attracts more trawlers, further exacerbating the problem. To raise political awareness of the problem, crews from 60 coastal vessels peacefully occupied the Danish Ministry of Fisheries in 2019. This was an initiative by Thorupstrand fishers and did lead to improvements, as senior government officials attended meetings and implemented a control checkpoint for beam trawlers in 2019.

Future plans

The guild aims to **expand its presence in the national market**, rather than export its catches to southern Europe, by encouraging customers to support small-scale local fisheries. This strategy not only boosts revenue and supports the slow food and local movement, but it also serves as a tool in the political fight against beam trawlers in Skagerrak.

“The neighbouring fishing village disappeared within a month due to pressure from large investors.”
(Thomas Højrup)



Business model – Thorupstrand Kystfiskerlaug

Key partners	<ul style="list-style-type: none"> • Thorupstrand Kystfiskerlaug, a community-based fishing guild owned and run by the fishers. • Thorupstrand Fiskercompagni, a wholesaler owned by the guild. • Jammerbugt i Balance, a boat yard in Thorupstrand.
Key resources	<p>Physical resources:</p> <ul style="list-style-type: none"> • Processing and packing warehouse in Thorupstrand, which has ice, cutting boards, etc. • Fish shop in the form of a boat in Copenhagen <p>Human resources:</p> <ul style="list-style-type: none"> • 2-3 workers in the processing and packing warehouse who earn a percentage of the catch as if they were fishers • 1 chairperson working voluntarily • Group of 100 villagers who gut and clean the fish when catch volumes are high • 1 legal manager of the guild, which is legally required for the guild to exist and is responsible for accounting <p>Legal resources:</p> <ul style="list-style-type: none"> • Creation of the quota guild • Fishing quota for cod, plaice and sole
Investment and financing	<ul style="list-style-type: none"> • The initial investment to buy part of the quota was DKK 50 million (€6.7 million). • The warehouse, new boats and boat yard cost DKK 45 million (€6 million) and were financed through EU funding, Danish real estate fund and private funds.
Customer relationship	<ul style="list-style-type: none"> • The fish caught by guild fishers is rated “E-fish”, the highest quality possible. This high quality is due to the low impact gears used as well as the proximity to the landing site. • By having community-based management, protection against quota speculation, and using low impact gears, the guild is a model in all three pillars of sustainability.
Payment arrangements	The fishers get paid through the fish auction.
Cost structure	<ul style="list-style-type: none"> • The only fixed cost is the salary of the legal manager of the guild. • All other costs, including labour and materials, are variable and depend on the volume of catch.

Customer segments	<ul style="list-style-type: none"> • Currently almost 100% of the guild's fish is sold at the fish auction in Hanstholm, before being sent to gourmet restaurants in southern Europe. • A small quantity is sold to local restaurants and directly to consumers through the fish shop. • Other sustainable wholesalers are currently unable to buy the product due to the high prices.
Revenue stream	<ul style="list-style-type: none"> • Current revenue stems from sales at the fish auction and is only about 30% of the total quota. • The guild has repaid about DKK 15-20 million (€2-2.7 million) of the initial loan to buy the quota. The loan has a variable interest rate, which can cause difficulties at times.

The Fish Butcher

SEBASTIAN BAIER

FISH BUTCHERY

Hamburg & Börnsen, Germany



Number of fishers	Direct contact with 6-8 coastal and river fishers; number of fishers supplying wholesalers unknown
Average size of vessels	Mainly coastal and river fishing vessels of less than 8 metres, some bigger vessels (less than 24 metres) for Atlantic fisheries (e.g. mackerel, halibut)
Main gear used	Gillnets, longlines, hooks and lines, and diving
Main species caught	Catfish, pike perch, carp, trout, flatfish (plaice, turbot, flounder) and mussels
Species with quota	Herring, mackerel, plaice, amberjack and halibut
Website	@sebastian.baier.fish.butchery

Background

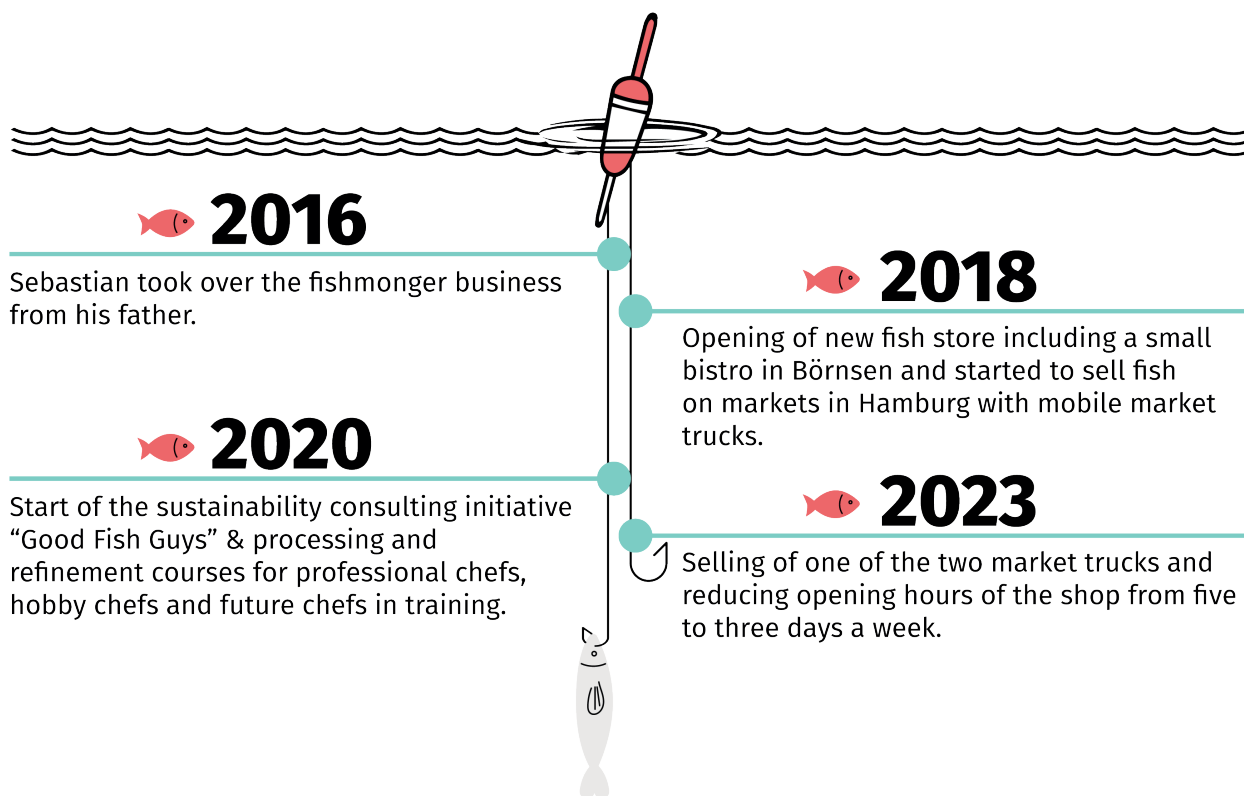
Sebastian Baier is a third-generation fishmonger from Hamburg, Germany's second-largest city. As the country's largest port, Hamburg has a rich maritime history, and its fish markets have attracted traders, shoppers and tourists from near and far since the 1700s. Culturally, fish and seafood are integral to Hamburg's culinary scene, with local specialities like "Finkenwerder Scholle" and "Labskaus".

At the age of 12, Sebastian had his first introduction to the fishmonger business, working in his father's fish shop at weekends. In 2016, he took over the business from his father and expanded it in 2018 by opening a new fish store with a small bistro in Börnsen, close to Hamburg. He also sells fish at weekly markets all over the city.

Environmental concerns led Sebastian to start sourcing sustainable, regional and traceable products. He also experiments with processing and refining lesser-known regional fish species, which has led him to diversify his activities; in 2020, Sebastian started the sustainability consultancy Good Fish Guys, and he organises courses on the holistic use and refinement of fish.



Timeline of initiative



Business model

Sebastian's business model centres around selling fish and refining fish products. He operates one permanent store in Börnsen, which opens three days a week, and one mobile truck he takes to different weekly markets in Hamburg five days a week, from Tuesday to Saturday. Customers can buy products directly at the store or from Sebastian's market truck, or can pre-order for pick-up.

Going beyond established certification schemes like MSC, Sebastian prefers to build personal, trust-based relationships with fishers and retailers for full transparency and traceability. This results in a unique product range. For instance, the only farmed salmon Sebastian sells is certified by Germany's Naturland label, he sells no redfish during their spawning period, and he sells no tuna. He also takes pride in promoting lesser-known and less popular regional fish species like carp, catfish, pike-perch and salmon trout, sourced directly through a well-established cooperation with local fishers in the river Elbe. This approach has many advantages: the fishers earn a good price for species they would otherwise not sell, Sebastian has direct access to fresh fish without intermediaries, and the proximity keeps transport costs to an absolute minimum.

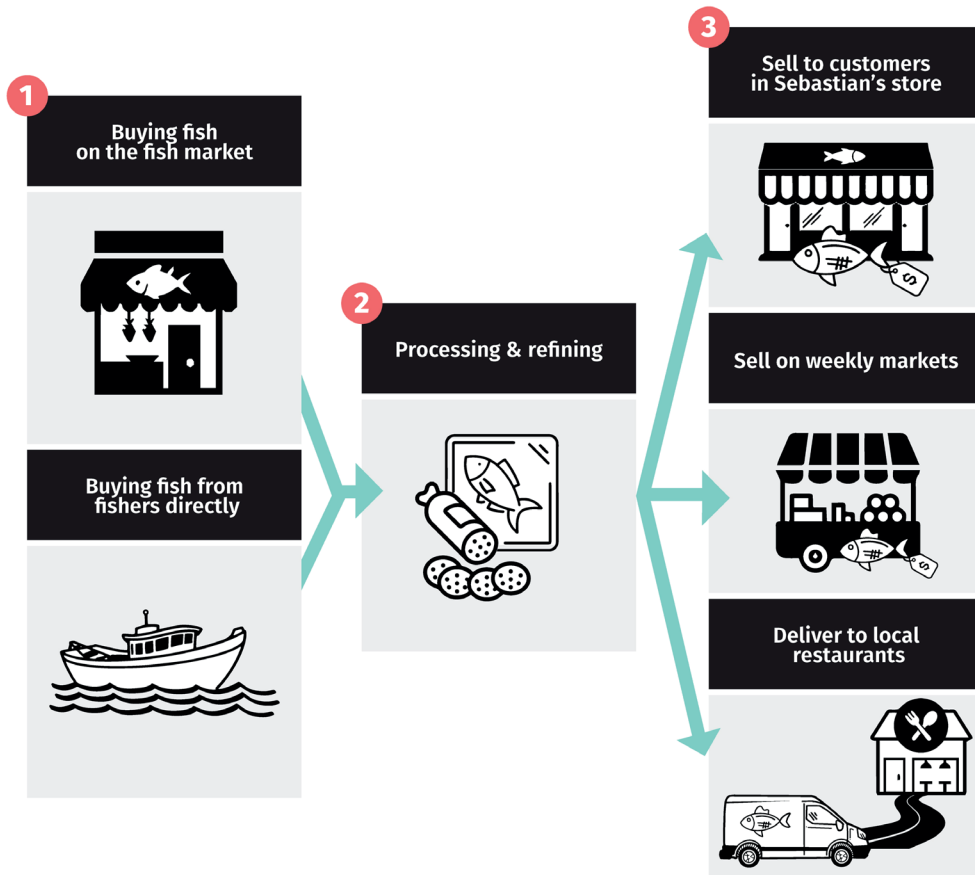
To try to popularise lesser-known regional fish species, and to reduce food waste, Sebastian experiments with fish processing and refinement. His own "dry-aging" method for fish has led to unique products like dry-aged carp as an alternative to ham. He also makes sausage and salami from catfish and carp with the hope of lowering consumers' resistance to trying new fish species.

Keen to share his knowledge and skills with others, Sebastian founded the sustainable fish consulting agency Good Fish Guys together with a fishmonger friend in 2020. They help restaurants and chefs incorporate more regional and sustainable seafood options into their menus.

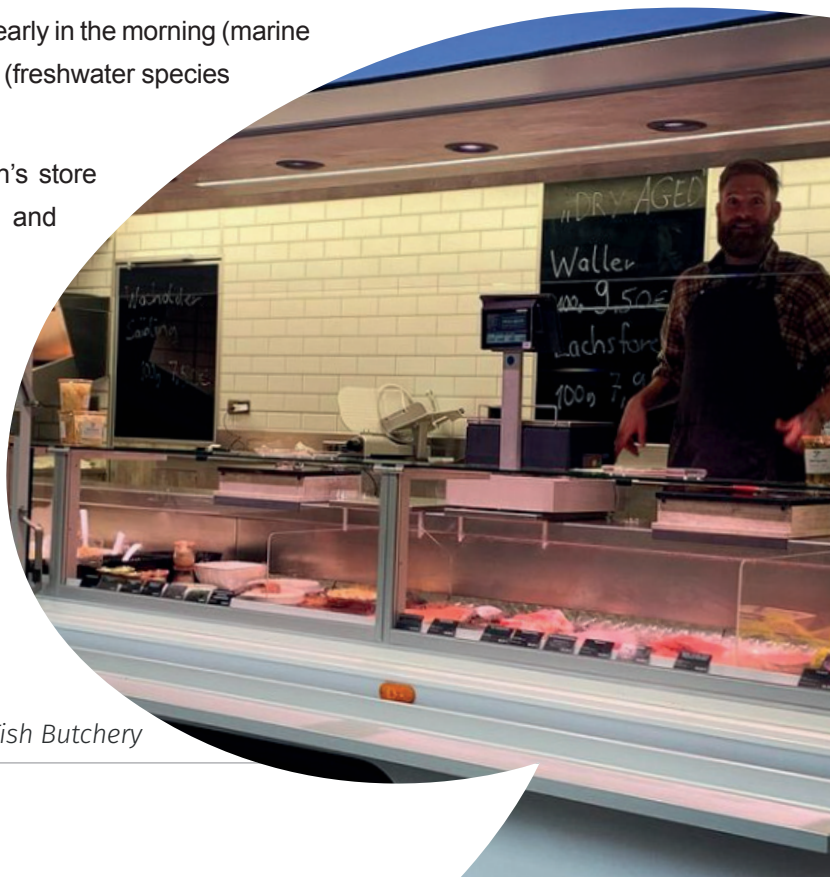
Sebastian also gives courses in fish handling, preparation, and refinement techniques for professional and aspiring chefs, focusing on regionality and sustainability that go beyond the “industry standards”.

Sebastian’s media presence and active social media engagement have attracted new customers for his products, events and courses, and have raised awareness about his mission.

The business model for Sebastian Baier Fish Butchery is as follows:



1. Sebastian buys fish at the Hamburg fish market early in the morning (marine species) or directly from fishers in the river Elbe (freshwater species like carp, catfish, pike-perch).
2. The fish is processed and refined in Sebastian’s store in Börnsen (e.g. dry-aging, salami, sausage, and salads).
3. Customers buy fish directly from Sebastian’s store or his market truck, or pre-order for pick-up. Sebastian also delivers fish to three sustainable restaurants in Hamburg.



© Sebastian Baier Fish Butchery

“Even people with training as a “fish sommelier” often have no knowledge about regional products and sustainability. What they learn is the “industry standards” of fish processing. For them, preparing a tuna means taking it out of the packaging and putting it on ice.”

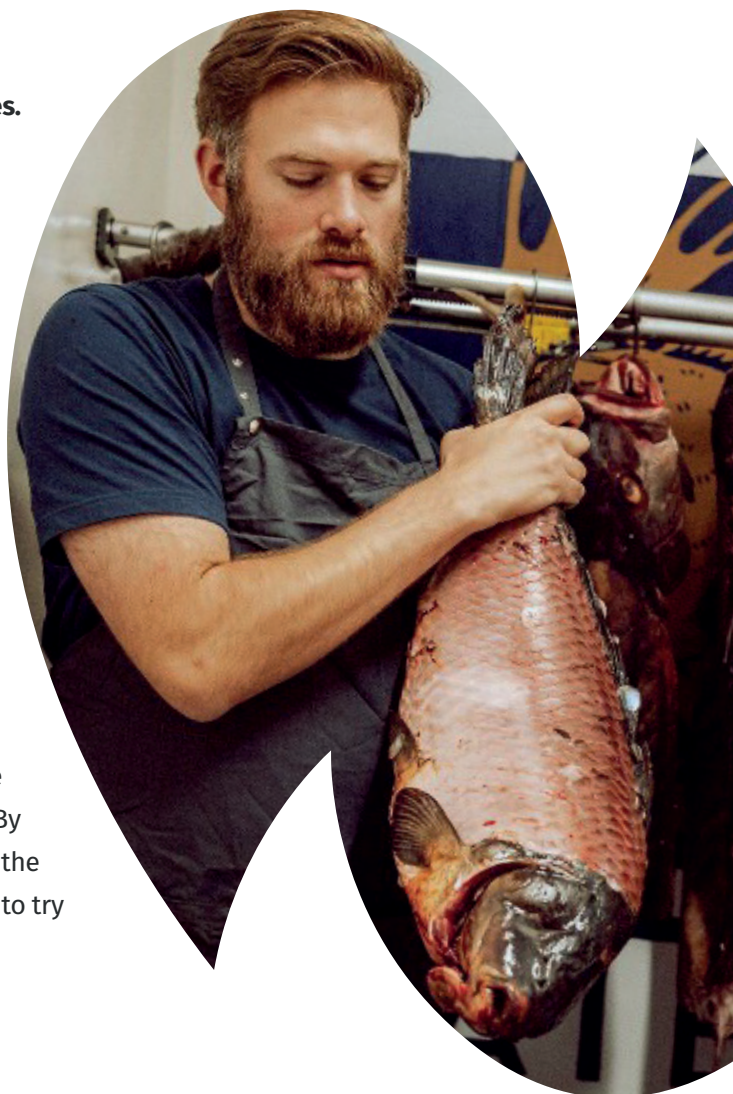
(Sebastian Baier)

Main challenges of setting up and running the initiative

While taking over an existing business with an established customer base made the start easier, Sebastian still faced multiple challenges. Building his new store was **more costly than expected**, and despite receiving a government loan, the main part of the investment was self-financed. Another challenge was **hostility within the industry itself**, as Sebastian has always been very outspoken about his approach and has openly criticised the industry for its lack of transparency and focus on sustainability.

Today, one of his main challenges is **finding good employees**. Employee training is time-consuming as experience in fish sales, processing and refinement is rare in Germany. Salary demands and flexible working hours are also hard to align with the realities of the business.

Since starting his business, Sebastian has made two major changes that were necessary **to keep the business running**, but also to **regain a healthy work-life balance**. From his initial “total idealism”, he realised he needed to compromise to keep customer engagement. From not selling any salmon in the beginning, he now sells Naturland certified salmon from organic aquaculture in the Irish Sea. The main reason behind his decision was that, with a product range that was too small and did not include popular and well-known fish species, he was limiting the number of customers he could engage with about choosing more sustainable options. By finding a compromise, he can educate more customers about the impact of conventional salmon aquaculture and convince them to try more regional and sustainable species, like salmon trout.



© Björn Weinbrandt

The second change was to adjust his **pace of work and business growth**. Initially, Sebastian wanted to expand quickly, which resulted in an overwhelming workload. In 2023, he changed his approach by reducing his store's opening days to three days a week and selling one of the two mobile market trucks. He also stopped supplying the gastronomy sector and now only delivers products to three restaurants in Hamburg.

“The sausage is the ultimate low-threshold format to convince a German to try something new. After they have tried catfish or carp in ham, sausage or salami form, most people are much more open to try a filet from these species.”

(Sebastian Baier)

Future plans

Over the next two to three years, Sebastian is focused on keeping the business up and running with the changes he made in 2023, despite the current economic crisis. Instead of aiming for growth, his emphasis is now on improving specialised activities and products, such as unique refinement techniques like dry-aging and fish salami. Sebastian also would like to focus more on the educational aspect of his activities, spending more time teaching and consulting rather than in sales and processing.

Business model – Sebastian Baier Fish Butchery

Key partners	<ul style="list-style-type: none"> • Family • Regional fishers, e.g. from the river Elbe
Key resources	<p>Physical resources:</p> <ul style="list-style-type: none"> • Shop in Börnsen • Mobile market truck • Cold storage • Processing space • Maturing chambers • Transport boxes • Ice for interim storage <p>Human resources:</p> <ul style="list-style-type: none"> • 8 full-time staff (processing and sales) • 4 part-time staff (sales and cleaning) <p>Legal resources:</p> <ul style="list-style-type: none"> • Business registration • Hygiene licence
Investment and financing	<ul style="list-style-type: none"> • €1.5–2 million investment for the initial phase (years 1-3), mainly to build the shop and buy the market trucks. • Government funding through a business start-up loan from KFW Förderbank. • Most of the investment was self-financed.
Customer relationship	<ul style="list-style-type: none"> • Long-standing customer base from when Sebastian's father ran the business. • Knowledgeable team that welcomes interaction and discussions with customers. • Unique and experimental products that stand out from other businesses. • Modern and aesthetic design of the shop and market trucks, which attracts younger customers. • Media coverage on the business in magazines and on TV. • Active social media presence on Instagram sharing insights on business activities and announcements of events and courses.
Payment arrangements	<ul style="list-style-type: none"> • Direct payment in the shop or at the market in cash or by debit card. • Orders can be placed in advance for pick-up in the shop or at the market.

Cost structure	<p>Monthly costs of around €50,000, roughly broken down as follows:</p> <ul style="list-style-type: none"> • 50% staff costs • 25% equipment costs and fish purchase • 25% running costs (electricity, gas, water)
Customer segments	<ul style="list-style-type: none"> • Private consumers from Hamburg and the surrounding area. • Around 800–1000 customers a week in the shop and at the markets. • Product delivery to three sustainable Hamburg-based restaurants.
Revenue stream	<ul style="list-style-type: none"> • Annual turnover of around €1.3–1.7 million. • The business was already making a profit in its second year.

Learning from South Africa ABALOB

Arranmore & Inishbofin, Ireland



Number of fishers	45 vessels with 1 fisher per vessel; 3 vessels involved in the pilot
Average size of vessels	8 metres
Main gear used	Traps and pots, line and nets
Main species caught	Shellfish, crab and lobster
Species with quota	Mackerel and pollack
Website	iimro.org

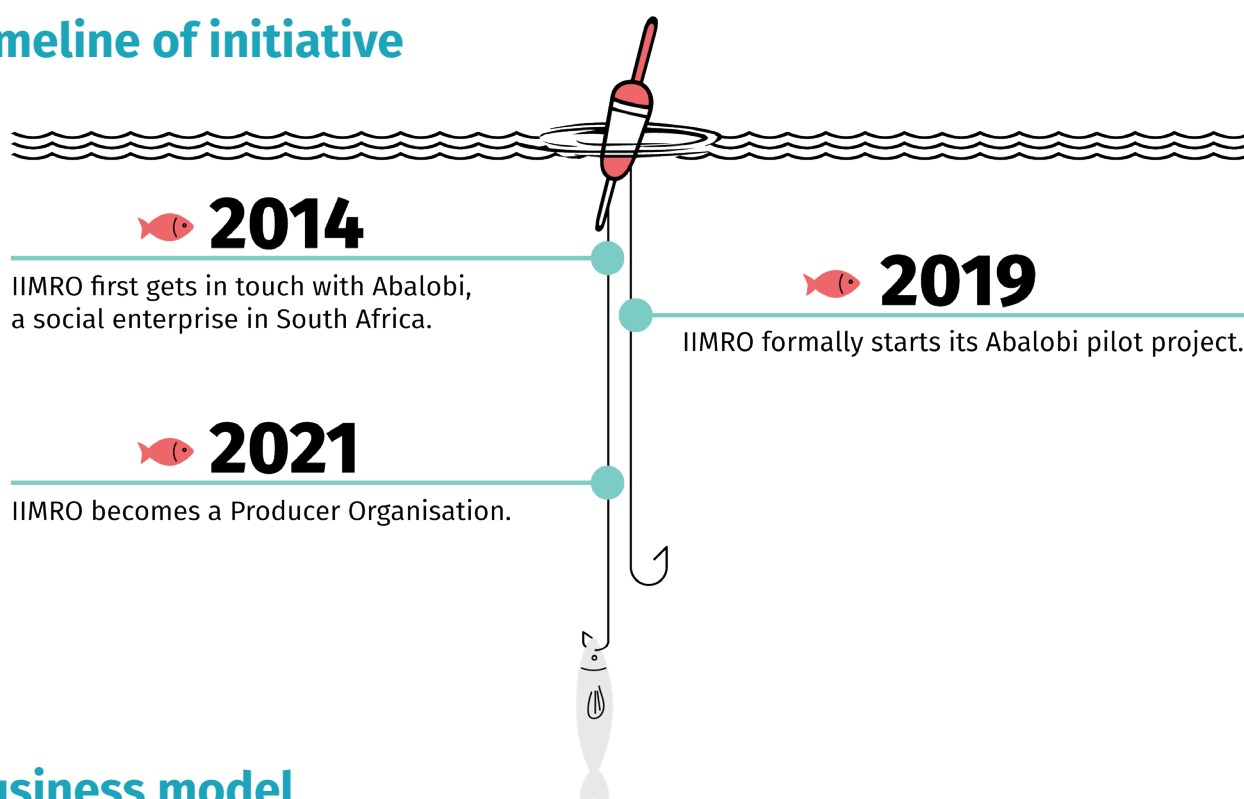
Background

The Irish Islands Marine Resource Organisation (IIMRO) was founded in 2014 in response to a long series of challenges faced by Donegal island fishers: a 2006 ban on offshore salmon fishing and a 2008 ban on all net fishing in Area VIa severely impacted the fragile island communities. Building on this momentum of the founding of the IIMRO, the fishers forged alliances with counterparts across Irish islands, forming a unified national organisation. Their campaign reached both Brussels and Dublin, advocating against the negative impacts of standardised legislation on island communities. This solidified IIMRO's role, leading to collaborations with groups across Europe and Ireland to push for recognition of the specific needs of small offshore islands.

While researching traceability and direct selling platforms to help support the livelihoods of its members, IIMRO discovered Abalobi, a social enterprise in South Africa. Abalobi's innovative app, co-developed with local small-scale fishers, enables fishers to log catches and sell traceable seafood directly to consumers. In parallel, Abalobi's "**Fish with a Story**" website shared information about the fishers, deepening the bond with customers. In 2019, around four to five years after discovering and first contacting Abalobi, IIMRO formally started its own Abalobi pilot project. Rethink Ireland provided funding, legal support and mentoring, and Abalobi helped with the technological adaptation for the Irish context.

The Abalobi Catch Log app has proven useful for fishers, allowing them to register and track their catches and expenses. It also has the potential to increase distribution channels, allowing the fishers to sell their catch to new buyers. Consumers use the Abalobi app because they are happy to support local fishers and have access to fresh, locally caught seafood. Although still in its pilot phase, the Abalobi tool shows promise for the future.

Timeline of initiative



Business model

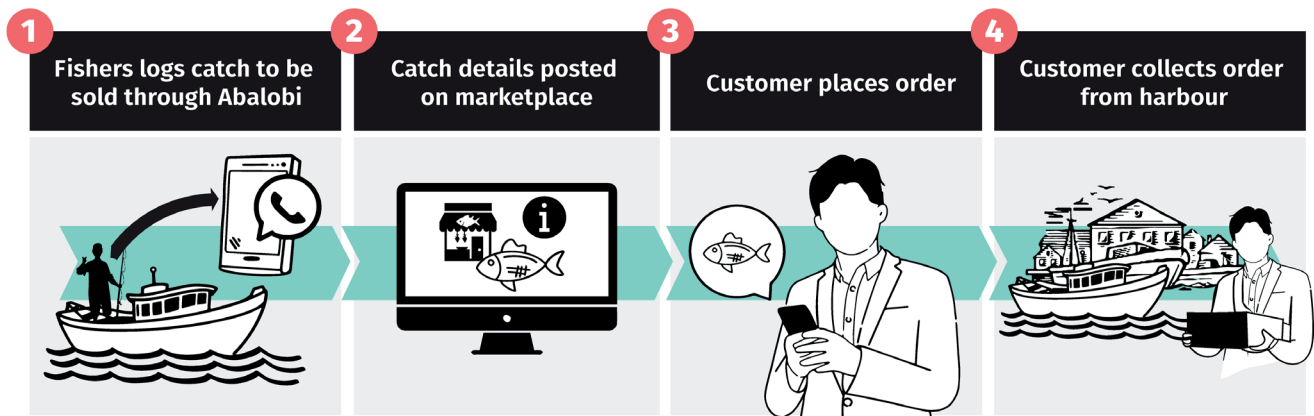
Abalobi facilitates the direct sale of catches from fishers to local buyers. Run by IIMRO, the current pilot phase operates on a small scale, focusing on local collection rather than distribution. There are about six to seven regular customers taking part in the pilot. Currently, only fresh, whole fish is sold and no catch is released until it is paid for.

The target market is seasonal, with a local community of around 500 people during the winter and an influx of tourists in the summer. Seafood supply is also seasonal, meaning catches vary depending on the time of the year, which can be challenging for some customer segments. A key objective is to expand the market to restaurants on the mainland. However, such long-distance deliveries might require a cold chain, which could bring other challenges in the future.

Initial funding of €25,000 from Rethink Ireland was used to adapt the Abalobi platform for the Irish context and to give an Android phone to each of the five fishers involved in the pilot. The Abalobi app enables fishers to sell directly to a buyer, without intermediaries. This increases fishers' profits and lets them keep better track of their catches and sales. Currently, a fee of 10% of the sales value is charged to cover transaction costs.

To operate, the project requires a pop-up retail stand, weighing scales, an ice machine, boxes, labels, and seaweed to keep fish fresh. In parallel, IIMRO is working on securing the infrastructure for fresh water, electricity, and ice machines, which are currently not available on all the islands. Legal requirements were easily met since the cooperative structure and regulation already safeguarded the possibility of buying and selling seafood.

The business model for Abalobi is as follows:



1. The fisher logs the catch information on the mobile app, which is then stored in an online portal. Fishers decide how much they want to sell through Abalobi, meaning they can still sell to existing buyers.
2. Details of the catch are posted on the app marketplace.
3. Customers get a notification informing them there is a catch available, and place orders through the online system.
4. Customers pick up orders from the harbour at a designated time. Payment is made upon collection, currently via PayPal but via Stripe in the near future.

Main challenges of setting up and running the initiative

The development of the pilot coincided with the COVID-19 pandemic, which significantly restricted traditional sales channels. During this period, IIMRO tried to adapt by pivoting towards local markets. The team also faced **technological issues**, making the support of Abalobi crucial for fixing glitches and other problems. Additionally, **landing regulations changed** in Ireland during the development of the initiative, requiring seafood to be weighed at the point of landing. This regulation was later withdrawn, allowing for weighing at factories instead.

Funding was, and is still a challenge. IIMRO is still struggling to be officially recognised as a Producer Organisation (PO), which would help cover some of its core costs as POs are funded. The **government funding scheme for new POs is complicated**, and despite IIMRO's ongoing efforts, securing funds is a slow process. **Manpower** is another issue; the initiative currently relies on volunteers and needs full-time staff to operate efficiently.

Some fishers are **resistant to adopting traceability measures** or having an app to register their catch. More awareness raising and education is needed so fishers understand the far-reaching and long-term benefits of collecting data on what fishing activities are happening where. For example, in the context of maritime spatial planning plans to allocate areas for renewable energy parks and marine protected areas in certain areas of fishing interest for the community.

It is also **difficult to reach consumers** and explain the importance of buying locally, even if for a slightly higher price. Additionally, maintaining customer loyalty is challenging due to the **seasonality of fishing and continuity of supply**, as depending on the season, different catches will be available for sale.

Future plans

Looking ahead, IIMRO aims to **expand** this initiative to other islands and to **sell to restaurants** on the mainland. The pilot, which started with three vessels, will be extended to other members and further marketplace trials in the near future.

In the short term, it is important that all aspects of the operations are running efficiently to be able to expand to other islands in the medium term. IIMRO also has ambitions to act as an **intermediary** between the fishers and the buyers, and has recently secured funding to purchase a **retail stall**.

Even though the Abalobi tool has not been fully developed yet, most fishers recognise its potential **benefits**, including proof of their catch and traceability, which can bring legal benefits such as being able to access bank loans with this record of activity and/or an increase in their **income**.

“We looked at a few different options, the Abalobi was non-profit, plus it was co-developed with fishers in South Africa, which was good as far as we were concerned. And the data ownership as well! Fishers can own their data. This was another big selling point from our point of view.”

(Seamus Bonner)



Business model – Abalobi

Key partners	<ul style="list-style-type: none"> • Fishers • IIMRO • Rethink Ireland • Abalobi
Key resources	<p>Physical resources:</p> <ul style="list-style-type: none"> • Android phones • Pop-up retail stand • Weighing scales • Ice machine • Boxes • Labels • Seaweed <p>Human resources:</p> <ul style="list-style-type: none"> • Volunteers <p>Legal resources:</p> <ul style="list-style-type: none"> • Quota for mackerel and pollack
Investment and financing	<ul style="list-style-type: none"> • Funding of €25,000 for pilot from Rethink Ireland • Currently searching for further funding
Customer relationship	<ul style="list-style-type: none"> • Final consumers are happy to support the fishers and have fresh and locally caught seafood. • There are not many regular customers, because fishing is seasonal and the population changes during the year. • Future goals include expanding the customer network to work with restaurants on the mainland.
Payment arrangements	<ul style="list-style-type: none"> • Payment is made when picking up the order. • PayPal is the primary payment method, but the initiative is moving towards Stripe, which allows payment by card.
Cost structure	<p>Given that the initiative is still in a pilot phase, it is difficult to work out the costs. Customers are charged a fee of 10% of the sale amount to cover transaction costs.</p>
Customer segments	<p>6 to 7 regular customers</p> <p>Where are the customers located?</p> <p>Donegal outer Island communities</p>

Processing boosts income

FiskOnline

Ronneby, Sweden



Number of fishers	10 fishers at its peak in 2014-2017; 3 fishers more recent years
Average size of vessels	Under 12 metres
Main gear used	Gillnet and longline
Main species caught	Cod (until ban from 2019), flounder, herring, sprat and salmon (recently banned)
Species with quota	Herring, sprat, cod and salmon
Website	FiskOnline - The pathway to eco-certification FARNET (europa.eu)

Background

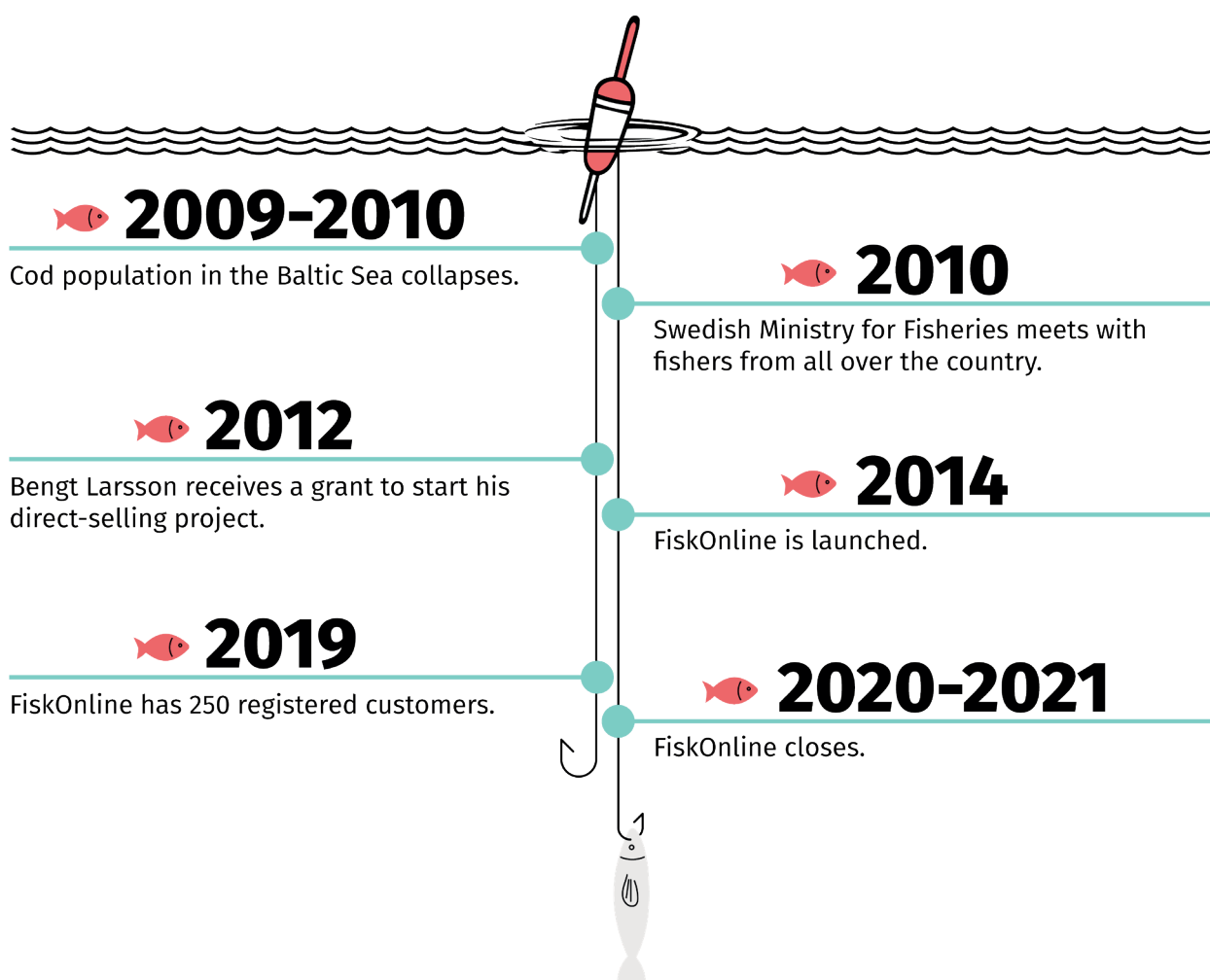
Around 2009-2010, the Baltic cod population collapsed, putting huge economic strain on fishers in the Baltic Sea. As yields plummeted, fishers needed to find new ways to increase the value of their catch to offset the reduced volumes. In the municipality of Ronneby, 75 out of 100 fishers went out of business or switched occupations as the low yields and prices no longer covered their costs. The remaining fishers decided to stop using wholesalers as their main selling channel and instead, develop a direct selling scheme. This new approach allowed high-quality fish to be processed (filleted, salted, smoked, pickled, etc) and sold directly to consumers and restaurants at prices four to five times higher than those offered by wholesalers.

In response to the declining catches, the Swedish Ministry for Fisheries held a meeting in 2010 with fishers from all over the country to explore potential solutions. During this meeting, Bengt Larsson, who would later create FiskOnline, explained that they should be selling fish online within the next five years. In 2012, the county in which Ronneby is located launched a project for creative entrepreneurs, offering grants for projects in early-stage development.

Bengt used this grant to hire students from the local technological institute to lay the foundations of FiskOnline, an online direct-selling platform. This collaboration led to the integration of the payment system and the functional basis of the platform. An 18-month development period followed, incorporating feedback from local fishers to ensure it met their needs. A key requirement was that fishers could participate with no additional investment, using only their existing mobile phones.

FiskOnline went live in 2014, with ten fishers using the platform alongside other sales channels. At its peak between 2014–2019, the platform had 250 registered clients, with each fisher generating about €8000 in sales through the platform in 2019. FiskOnline closed in 2020–2021.

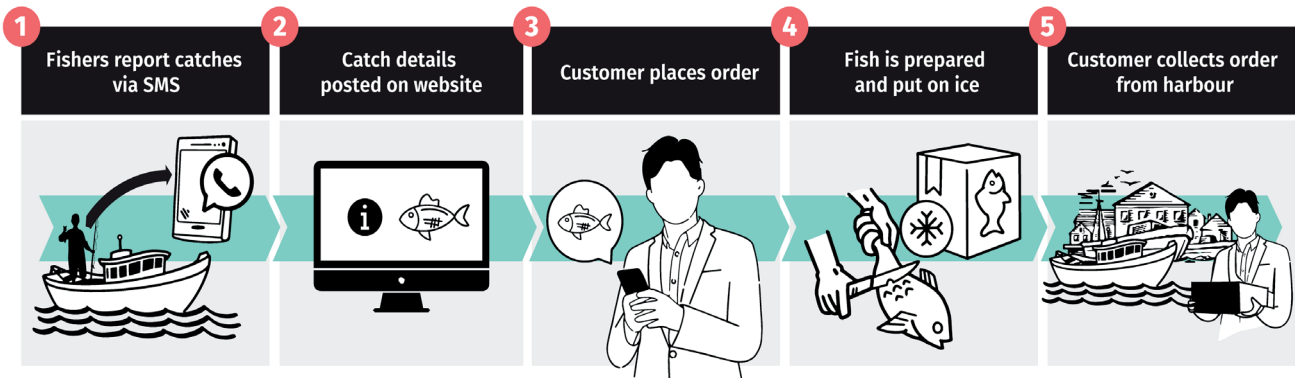
Timeline of initiative



Business model

FiskOnline was an online direct selling platform that local fishers used as one of their selling channels. The system not only enabled closer interaction with customers but also allowed more flexibility in the types of processing offered. Customers could decide if and how they wanted their fish to be processed, with the possibility to have filleted, smoked, salted or pickled fish.

The FiskOnline business model was as follows:



1. Fishers report their catches to FiskOnline by SMS while fishing, using shortcodes for the different species,
2. form (whole/steaks), and quantities in kilos.
3. Details of the catch are uploaded to the FiskOnline website.
4. Customers order seafood on the FiskOnline website, receiving a delivery code upon payment.
5. The fish is offloaded in the harbour, where it is filleted, vacuum packaged and put on ice.
6. Customers come to the harbour to pick up their purchase, giving their code to receive their order.

Main challenges of setting up and running the initiative

FiskOnline encountered multiple challenges during its set-up and operations, ultimately leading to its closure.

From the outset, the fishers ran into multiple **technological issues**, as they lacked the expertise needed to develop an online selling platform. Although they initially overcame this hurdle by collaborating with IT students from a local technological institute, FiskOnline remained heavily reliant on external IT support, resulting in high costs for system maintenance and troubleshooting.

Another difficulty was the **competition** FiskOnline was facing from established selling channels already used by local fishers. This was compounded by a sharp decline in the number of active fishers in the region. After the cod population collapse in 2009-2010, only 25 local fishers in Ronneby remained active, with the rest finding alternative employment.

By the time FiskOnline was launched in 2014, this four-year gap had allowed the remaining fishers to find other ways to sell their fish without seeing FiskOnline as the main solution. The fishers had developed



© Fisk Online

their own channels, including agreements with private consumers, wholesalers, and restaurants, some of which had exclusivity clauses. Local wholesalers had set up reward accumulation systems with the fishers, which could only be cashed out if the exclusivity agreement was dissolved by mutual agreement. This arrangement effectively trapped many fishers in their selling agreements with wholesaler companies, preventing them from using other selling channels like FiskOnline.


The culmination of these challenges resulted in the project shutting down in 2020-2021. **High operating costs** proved unsustainable, given the low catch volumes and limited number of participating fishers.

Future plans

Although FiskOnline no longer operates, various business models for direct selling, processing, and transformation continue to thrive. One of the fishers behind FiskOnline now sells his catch directly to consumers at his home port several times a week, depending on favourable weather conditions and the success of his catches. He also supplies local restaurants with freshly caught fish.

The fish is processed immediately after landing in a dedicated facility at the port, with processes including filleting, smoking, pickling, and packaging the fish in small glass jars. As part of his entrepreneurial activities, this fisher also delivers lectures on small-scale, sustainable fishing practices to special interest groups and educates culinary students on the handling of high-quality fish. In addition, the fisher also oversees a mussel farm.

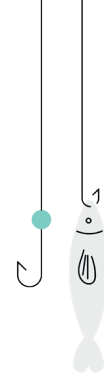
Other fishers from the FiskOnline initiative are involved in developing new fishing gear aimed at reducing bycatch and diversifying target species. This includes efforts to manage invasive species, such as the round goby (*Neogobius melanostomus*) in the Baltic region.



*“It was the lack of fish that made FiskOnline possible.
But it was also the lack of fish that brought it down.”*
(Bengt Larsson)

Business model – FiskOnline

Key partners	<ul style="list-style-type: none"> • Fishers • Local authorities • External IT assistance
Key resources	<p>Physical resources:</p> <ul style="list-style-type: none"> • Vacuum machine • Ice • Styrofoam boxes • Mobile phone <p>Human resources:</p> <ul style="list-style-type: none"> • Self-employed fishers • Ad hoc IT assistance
Investment and financing	<ul style="list-style-type: none"> • Initial EU grant of €50,000 • Additional €11,000 through entrepreneur competition • No private funds
Customer relationship	<ul style="list-style-type: none"> • Customers have access to a much higher quality product compared to industrial seafood. • The product is fresh, sustainable and with no harmful transformations. • Market studies showed that filleted fish was a great success, especially with the retired community.
Payment arrangements	Customers paid through Klarna, a popular online payment service in Sweden.
Cost structure	<p>High costs including:</p> <ul style="list-style-type: none"> • IT maintenance and assistance • Unlimited phone plan • Monthly payment system subscription
Customer segments	<p>250 customers in the contact list</p> <p>Where are the customers located?</p> <p>Mostly from the local Ronneby area, with some customers from further away ordering when visiting a relative in the area.</p>
Revenue stream	<p>Annual total revenue of about €8,000 per fisher.</p> <p>FiskOnline took 6% of each sale made on FiskOnline, which helped cover the high fixed costs incurred by the company. When selling at high volumes, the 6% fee was enough to cover all costs but as catches and sales started to decline, the costs became overwhelming and led to the shutdown of the project.</p>



Conclusions

This report explores alternative business strategies designed to counter the adverse effects of large-scale industrial fishing on small-scale low-impact fisheries products. These strategies address the various challenges faced by these fishers, such as the high number of dominant intermediaries, the consolidation of fishing quotas, restrictive fishing regulations, declines in fish populations, and the limited variety of species available for consumption.

In general, the primary objective of the initiatives analysed in this report is to improve selling prices for small-scale low-impact fishers, who are often marginalised in the traditional supply chain. The initiatives also aim to increase transparency in seafood sourcing, raise the visibility of the low-impact fishing sector, and educate consumers about sustainable practices and lesser-known species.

One of the key steps to addressing these challenges is to establish an almost direct connection between small-scale low-impact fishing communities and their customers. This approach is seen as a pivotal step in achieving their broader objectives of improving market conditions for fishers, increasing transparency of seafood supply, and improving the state of marine ecosystems.

Through a thorough analysis of the various initiatives, several recurring challenges and opportunities were identified. These were not isolated issues or opportunities, but rather common themes that emerged across different initiatives. To provide a clear and concise overview, these findings have been summarised in Table 1. This table serves as a comprehensive guide, highlighting the key issues and potential avenues for improvement that were uncovered in the analysis of the initiatives.

As a general conclusion, the initiatives discussed in this report highlight the need to consider the broader social, economic and environmental ramifications of market-based regulations. In doing so, they underline the importance of a balanced approach to regulation that considers the unique characteristics of small-scale fisheries.

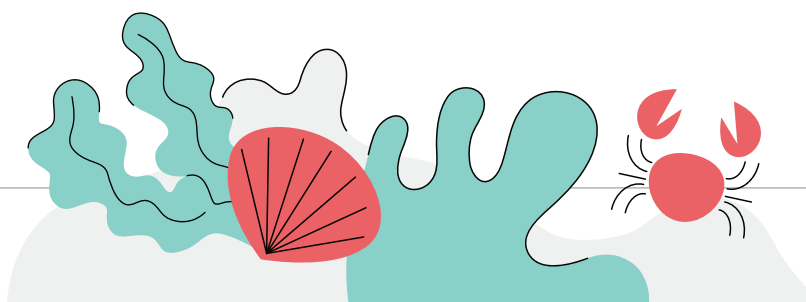


Table 1. Overview of common challenges and opportunities across the analysed initiatives.

Local economic structure & socio-cultural dimension	
Challenges	Opportunities
<ul style="list-style-type: none"> • Lack of consumer understanding about the seasonal variations of seafood • Reluctance of some fishers to use new technologies • Lack of awareness among elderly fishers about the benefits of owning data about their catch • Inner resistance (some pressure from other fishers, preference to maintain status quo) • Knowledge gaps about fishing create obstacles for the young generation of fishers • Lack of human resources to operate initiatives • High prices for seafood make it difficult to convince consumers to buy locally 	<ul style="list-style-type: none"> • Increased consumer awareness and shift in demand to local seafood • Chefs can be advocates of fair seafood value chains and clear labelling • Community-based solutions to navigate the modern market • Community-based governance for better resilience and cooperation between stakeholders • Young people entering the fishery sector with better formal education levels and entrepreneurial skills • New generation of fishers proud of their activity • Knowledge exchange through participation in networks and events to design new initiatives • Using technology to record catch data and implement traceability could serve as proof of fisheries' activities, which is beneficial for fishers personally (e.g. gain access to bank loans and increase their income) and for the continuation of their activity (e.g. consideration in maritime spatial planning) • Adaptative technological solutions that consider the particularities of the initiatives • Processing products to generate higher revenues and additional jobs

Logistical and market dimension

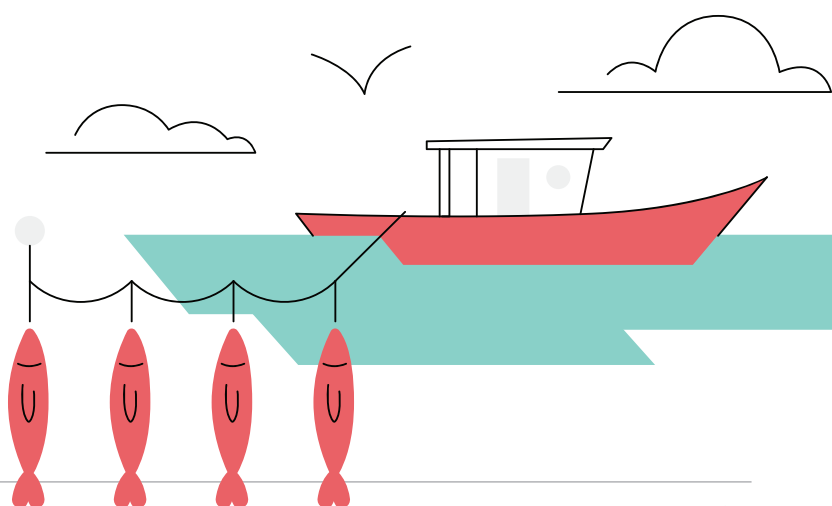
<i>Challenges</i>	<i>Opportunities</i>
<ul style="list-style-type: none"> • Problems with transportation, swift delivery and cold chain • Power and institutional imbalance between small-scale low-impact fishers and wholesalers • Lack of differentiation of small-scale low-impact fishery products at auction, resulting in unfair prices • Complex and fast-changing markets making fishers abandon the solo-working approach • Unpredictability of caught species and weight for small-scale low-impact fisheries restricts customer options • Competition with other similar initiatives • Consumers' reluctance to change their seafood consumption habits 	<ul style="list-style-type: none"> • Using unwanted invasive species to create new markets • Clear labels displayed at fish auctions allowing fishers to get a higher price for their catch • Community-based solutions to navigate the modern market • Community-based governance for better resilience and cooperation between stakeholders • Creation of short market circuits, with a lower carbon footprint • Adaptive technological solutions that consider the particularities of the initiatives • Processing products to generate higher revenues and additional jobs

Environmental dimension

<i>Challenges</i>	<i>Opportunities</i>
<ul style="list-style-type: none"> • Vulnerability of small-scale low-impact fishers to environmental damage due to large-scale vessels operating in the same area and general poor state of fish populations and wider marine ecosystem • Unpredictability of caught species and weight for small-scale low-impact fisheries restricts customer option 	<ul style="list-style-type: none"> • Community-based governance for better resilience and cooperation between stakeholders • Healthy environment and ending overfishing increase fish populations and in consequence fishing opportunities

Technical, financial and institutional dimension

Challenges	Opportunities
<ul style="list-style-type: none"> • Infrastructure deficiency and lack of dedicated funding for initiatives to support small-scale low-impact fisheries accessing markets • Institutional efforts focused to support large-scale, high-volume fisheries and centralisation • Institutional resistance to eliminating administrative burdens and better understanding the needs of emerging business models in support of small-scale low-impact fisheries and alternative markets • Lack of technical and institutional support, with fishers struggling to implement initiatives while working full-time • Bureaucratic difficulties accessing funds • Technology developments for fully operational applications • Regulatory framework (e.g. ban on direct sales in some countries, obligation to sell at auction) 	<ul style="list-style-type: none"> • Innovation in transformation techniques and new products • Community-based governance for better resilience and cooperation between stakeholders • Young people entering the fishery sector with better formal education levels and entrepreneurial skills • Knowledge exchange through participation in networks and events to design new initiatives • Using technology to record catch data and implement traceability could serve as proof of fisheries' activities, which is beneficial for fishers personally (e.g. gain access to bank loans and increase their income) and for the continuation of their activity (e.g. consideration in maritime spatial planning) • Legal frameworks and facilitators to navigate them are essential for encouraging the development of new initiatives • Adaptive technological solutions that consider the particularities of the initiatives • Fishers' data ownership • Processing products to generate higher revenues and additional jobs



Recommendations

Below, we have provided a list of actions needed to facilitate the existence of market diversification strategies, enhance access to markets, and improve the livelihoods of small-scale low-impact fishers, indicating which challenges these actions would target.

1. Swift policy adaptations in response to changing societal, environmental, and economic trends

Institutions are often reluctant to adopt new business models and adapt to changing environments. In some countries, delays in acquiring permits to fish and market invasive species or sell seafood directly outside the fish auction system have jeopardised the viability of innovative initiatives.

Raising awareness among institutional personnel of the importance and benefits of these new models and initiatives is crucial to streamline processes, reduce administrative burdens, and generally ensure the appropriate support. New and more agile legal structures must be put in place to encourage more innovative initiatives. These structures should also include provisions for capacity building and assistance throughout the design of the initiatives and, open new lines of funding support and reorient existing ones.

Given the financial and time constraints faced by fishers, the importance of facilitating the development of initiatives cannot be underestimated. Receiving timely and appropriate support to navigate the complex language and documentation that characterise legal frameworks is essential if initiatives are to have the best chance of success.

2. Adapting certification to small-scale low-impact fisheries

Many fish auction systems fail to recognise the superior quality, freshness, and low environmental impact of products sourced from small-scale low-impact fisheries. This leads to unfair and inadequate financial compensation for fishers, with the resulting pressure to increase catch volumes to earn a decent living. Separating seafood caught by small-scale low-impact fisheries from industrially caught seafood could result in higher prices, thereby incentivising sustainable practices and reducing the overall impact on the marine ecosystem.

Tailoring a certification process to the distinct characteristics of small-scale low-impact fisheries could potentially unlock new market collaborations. It could act as a catalyst for increased partnerships between small-scale low-impact fishers and organic food retailers, thereby stimulating the sector's economic development. Furthermore, local advocates such as restaurants and chefs could also play a crucial role in championing clear labelling. Their endorsement could not only promote the importance of acknowledging the unique qualities of small-scale fisheries but also ensure they receive the financial compensation they deserve.

The positive impact of this approach is evident from the experiences of fishers from Ligneurs de la Pointe de Bretagne, Thorupstrand Kystfiskerlaug or Empesca't, among others, where the introduction of clear labels at fish auctions has allowed their seafood to fetch a higher price, truly reflecting the value of their catch.

3. Empowering the new generation of innovative fishers and fishmongers

The new generation of fishers and fishmongers are challenging stereotypes about their profession, portraying it as a sophisticated, technologically advanced, and environmentally conscious field.

Contrary to the traditional image of fishing as a rudimentary and unintellectual occupation, these modern fishers and fishmongers are well-educated, often holding degrees in marine biology or business management. They leverage technology for catch documentation, direct sales, and traceability, and are committed to sustainable fishing practices to safeguard biodiversity.

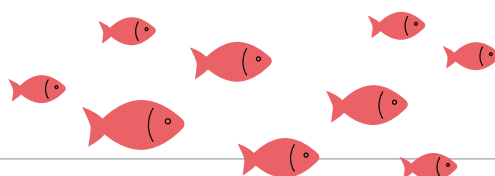
Beyond reshaping perceptions, these younger fishers also advocate for community food systems and environmental conservation, participating in community initiatives to educate the public about responsible consumption. They contribute to initiatives aimed at restoring the environment and developing novel models of collective governance. Their work showcases the potential of a modern, environmentally conscious approach to traditional professions.

4. Promoting knowledge exchange

The process of knowledge exchange through active participation in various networks and events has been pivotal in fostering innovative thinking and in the design of many of the initiatives analysed. This form of learning, often experiential and collaborative, allows diverse groups of individuals to exchange ideas, insights, and best practices.

To enhance this process, exchange programmes specifically designed for small-scale low-impact fishers and fishmongers should be implemented. Although there are some examples of such programmes, a lack of dedicated funding threatens their existence and limits their reach.

Such programmes could include workshops, seminars, site visits, and training sessions that focus on specific areas of interest, such as fisheries management, market strategies, environmental conservation, or public outreach. By fostering a culture of continuous learning and collaboration, these programmes could significantly contribute to the improvement of small-scale low-impact fisheries and the overall well-being of the communities involved.



5. Supporting infrastructure and technological development

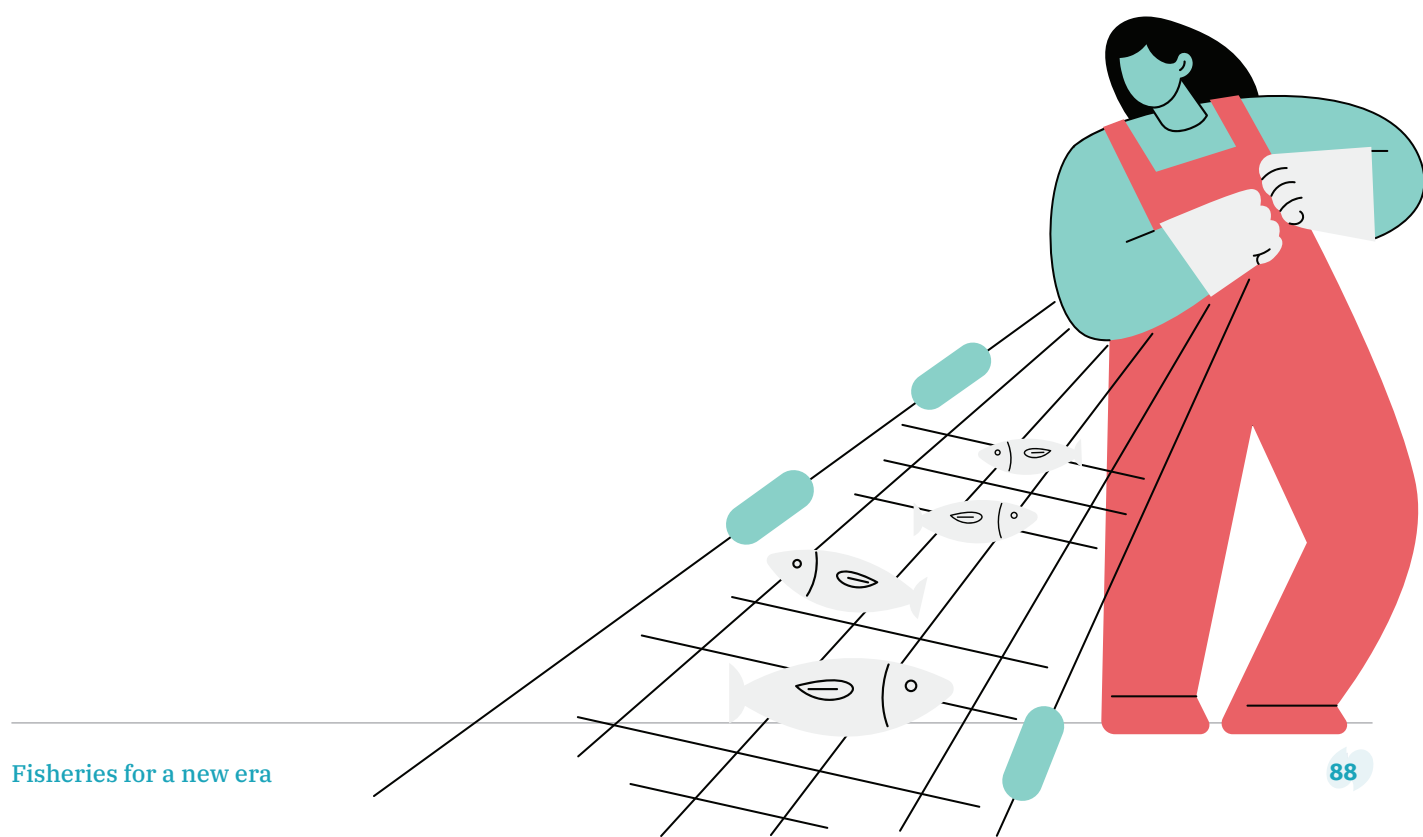
The development of new fishing tools and techniques often requires substantial investment and advanced infrastructure, posing a challenge for small-scale low-impact fisheries. Some fishers, especially older ones, may resist adopting new technologies due to a lack of understanding about their benefits. However, utilising technology could help fishers prove their income and access financial aid. Co-design programmes to develop these technologies are essential.

Additionally, providing technical aid, training, and funding support for innovation and development in the fishing sector is crucial.

6. Increasing education and outreach

Informing both suppliers and customers, such as restaurants and the general public, about the potential of invasive species as a food resource and a market opportunity is essential. This understanding can lead to the creation of sustainable and environmentally friendly food supply chains.

Moreover, consumers should be educated about the benefits of purchasing locally sourced products, despite the additional costs. This includes eating seasonal produce and supporting local businesses. Promoting these practices can not only lead to a healthier and more sustainable food system, but can also stimulate local economies.



Acknowledgements

Oceans5 and the Aether Fund/Foundation for Future Generations for financial support to make this study possible.

We, the authors, are profoundly grateful to everyone who consented to be interviewed. Your generosity in sharing your time and insights has been truly inspiring. Listening to your stories and witnessing the passion that fuels each of your initiatives has been an enriching experience.

We extend our deepest gratitude to our collaborators, whose unwavering support in gathering and drafting the report has been invaluable. Your contributions have significantly enriched the report, and for that, we are eternally thankful.

Lastly, we would like to express our heartfelt thanks to both Low Impact Fishers of Europe and Seas At Risk. Your trust in us, particularly in relation to the criteria and suggestions that were instrumental in shaping this study, is something we deeply appreciate.

Bibliography

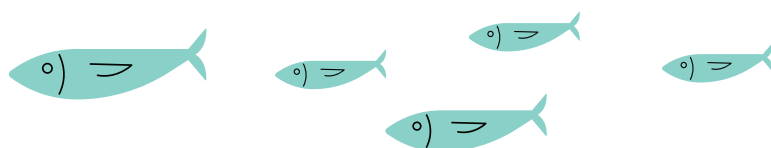
Froese, R., Winker, H., Coro, G., Demirel, N., Tsikliras, A., Dimarchopoulou, D., Scarcella, G., Quaas, M., Matz-Lück, N. 2018. Status and rebuilding of European fisheries. *Marine Policy* 93: 159-170. <https://doi.org/10.1016/j.marpol.2018.04.018>

Pascual-Fernandez, J., Pita, C., Bavinck, M. (Eds.). 2020. *Small-Scale Fisheries in Europe: Status, resilience and governance*. Springer, MARE Publication Series 23. <https://www.springer.com/gp/book/9783030373702>

Guyader, O., Berthou, P., Koutsikopoulos, C., Alban, F., Demanèche, S., Gaspar, M., Eschbaum, R., Fahy, E., Tully, O., Reynal, L., Curtil, O., Frangoudes, K., Maynou, F. 2013.

Small scale fisheries in Europe: A comparative analysis based on a selection of case studies. *Fisheries Research* 140: 1-13. <https://doi.org/10.1016/j.fishres.2012.11.008>

UNEP and FAO. 2022. *Sustainable Food Cold Chains: Opportunities, Challenges and the Way Forward*. Nairobi, UNEP and Rome, FAO. <https://doi.org/10.4060/cc0923en>



Annex

RethinkFisheries: Survey

Guidelines: The easiest is to print this questionnaire and write down the answers after each question.

Please record the interview (especially if done online). Write down important quotes from interviewees (we need it for the report). Ask for or take (if face-to-face) photos (photos of port, boats, fishers, interviewee, anything relevant related to the initiative).

Background (to provide to interviewees): This work aims to describe alternative business models in the fisheries sector, which have a low impact on the environment and marine life, and are fair and profitable for local communities. It will result in a document for Seas at Risk (a European umbrella organisation of NGOs working on the ocean) and LIFE (Low Impact Fisheries of Europe, the European platform of associations of small-scale fishers), showing real-life cases of alternative good practice. We have selected your initiative as an example of such good practices. Thanks for taking the time to give us this interview.

Name of interviewer:

Date of interview:

Name of initiative:

A. Background to the organisations

(Collect all the information below)

1. Name of person being interviewed:
2. Name of organisation:
3. Location of organisation:
4. Type of organisation (e.g. association, cooperative, company):
5. Name of organisation:
6. Number of associates (fishers) and vessels:
7. Average size of vessel or range of lengths (from x to x meters):
8. Main gears used:
9. Main species caught:
10. Average amount of days at sea per year (and hours worked per day):
11. Do you need quotas for some species? Yes/No
12. If yes, what species?

B. Information about the initiative (name it)

(open-ended questions. Make sure to collect information on all the points below)

13. When did the initiative start? (what year was the initiative put in place?)
14. Describe the initiative in detail (what does it do?):
15. Why did you choose to do it? Where did you get the idea for this initiative? and why?
16. Who was involved in implementing it (which actors)?
17. What were the main challenges of implementing this initiative?
18. What are the main challenges of running it? What did you have to change (adapt) along the way?
19. Any other additional information

C. Other initiatives

20. Do you have any other initiatives in place (what else are they doing besides the main initiative of interest)? (if any, describe it)

D. Market operation & logistics regarding the initiative

21. Number of units sold? (how much do you sell? how many baskets / kg of labelled products?)
22. Customers:
- Who are the target customers of your initiative (e.g. final consumer, restaurants, etc.)?
 - How many customers do you have?
 - Where are the customers based?
23. What prompts the customer to buy your product (in your opinion why is the customer interested in your initiative)?
24. Did you change your customer-base with this initiative? (understand if they changed customers after having implemented the initiative). And how? (describe)
25. Do you have any other target customers (for the future)? and why?
26. Getting the product to customers:
- How does it work? How do you deliver your product to customers?
 - What is the payment arrangement (how do the customers pay)?
27. Logistics:
- What are the equipment requirements? (what do you need? car, styrofoam boxes, etc. – list all needed)? Did you have to buy it?
 - What were the legal requirements to implement the initiative? (problems with legislation? How was it overcome? etc.)
 - What were the staff requirements? (did you have to employ people? etc.)
28. Any other additional information

E. Costs & investment

29. Implementation costs:
- What were the initial costs of implementation of the initiative? (value in euros) and for what? How much investment was needed? If not the value in euros, a percentage of initial costs.
 - What was the funding source(s)? (where did you get money to finance the initiative? from whom? (e.g. FLAGS, foundations, government, self-financed, etc.).
30. Current costs:
- How much does it cost to run the initiative today? (value in euros)
 - How much is spent on what? (Any costs - in equipment? maintenance? ice? staff? quota (if they have it)?) (If euros not known can be a percentage)
31. How long until break-even? (how long – number of years/months – to have return on investment, i.e. recover the cost of implementation)
32. Any other additional information

F. Future plans / outcomes

33. What else do you want to do? Short-term ambitions (next few years) and long-term ambitions?
34. What were the main outcomes and benefits (for fishers and for the environment) of your initiative?
35. Any other additional information

Acknowledgements

Seas At Risk gratefully acknowledges support from Oceans 5, Fonds Aether for future generations and the EU LIFE programme. The content of this report should not be regarded as reflecting the position of the funders.



FONDS AETHER
POUR LES GÉNÉRATIONS FUTURES



Contact

secretariat@seas-at-risk.org



@SeasAtRisk



Seas At Risk



@seasatrisk_ngo



Seas At Risk

Transparency Register: 625261439488-38.
Published in October 2024

